

County Borough of Blackburn.



ANNUAL REPORT

UPON THE

Health of Blackburn

For the Year 1928,

BY

V. T. THIERENS, M.B., Ch.B. (L'pool), D.P.H. (Cambridge),
MEDICAL OFFICER OF HEALTH,
ADMINISTRATIVE TUBERCULOSIS OFFICER,
MEDICAL SUPERINTENDENT OF THE CORPORATION HOSPITALS,
SCHOOL MEDICAL OFFICER.

BLACKBURN :
THOMAS BRIGGS (BLACKBURN) LTD., 73 NORTHGATE.

County Borough of Blackburn.



ANNUAL REPORT

UPON THE

Health of Blackburn

For the Year 1928,

BY

V. T. THIERENS, M.B., Ch.B. (L'pool), D.P.H. (Cambridge),
MEDICAL OFFICER OF HEALTH,
ADMINISTRATIVE TUBERCULOSIS OFFICER,
MEDICAL SUPERINTENDENT OF THE CORPORATION HOSPITALS.
SCHOOL MEDICAL OFFICER.

BLACKBURN :

THOMAS BRIGGS (BLACKBURN) LTD., 73 NORTHGATE.



CONTENTS.

	PAGE		PAGE
Abattoir	60-68	Maternity Homes	153
Ambulance Facilities	26	Measles	85, 89
Ante-Natal Care	130, 122	Meat Inspection	60-68
Anti-Toxin, Diphtheria	79	Meteorology	163
Ash Receptacles	30	Midwives' Acts	132
Anthrax	58, 86	Milk, Tuberculous	48
Bacteriological and Pathological Examinations	52, 96, 159	Milk (Mothers and Children Order)	151
Births	13, 137	Milk	46-52
Blind, Care of the	162	Mortality in Connection with Child- birth	136
Canal Boats	31	Natural Increase in Population	140
Cancer	20-21	Noo-Natal Mortality	138
Cattle Market	59	Notification of Births Acts	137
Child Mortality	130-135	Notification of Infectious Diseases	69-75
Cost of Public Health Department	12	Nuisances	27-44
Climate	152	Nurses, District	148
Cleansing Station	40	Offensive Trades	31
Closet Accommodation	29, 42	Ophthalmia of the Newly-born	144
Clinics	8	Occupational Statistics	23-23
Common Lodging-houses	30	Parasitic Mange	58
Contagious Diseases of Animals Acts	55-56	Poor Relief	24
Conversions	29	Population	12
Crippling	104	Pregnancy, Deaths due to	127
Dairies	48	Premature Births	152
Deaths	13-26	Puerperal Sepsis	135
Dental Work	104-148	Queen's Park Hospital	26, 95
Diarrhoea	80	Refuse, Collection of	29
Diphtheria	78-80, 91-95	Residential Open-Air School	97
Disinfection	40	Royal Infirmary	26, 95, 122, 124
Dispensary—Tuberculosis	93-96	Sanatorium	103, 111, 114-118
Education on Health	161	Sanitary Work, Details of	27-44
Enteric Fever	85, 98	Scarlet Fever	76-78, 89-91
Factory and Workshops Acts	37-39	Scavenging	30
Farms	48-52	Sewers	29
Food and Drugs Acts, Sale of	53-57	Slaughter-houses	57-64
Food	46-68	Smoke Nuisance	41
Food, Preparing Places	51	Staff	7
Foot and Mouth Disease	58	Still-Births	137
Hospital for Infectious Diseases	87-96	Smallpox	81-85
Hospital Accommodation	25	Social Conditions	11-26
Hospital, Maternity	124	Shellfish	47
Housing	28-29, 34	Tents and Vans	31
Houses Let in Lodgings	30	Tuberculosis	57, 98-120
Heart Disease	19	Tuberculosis Dispensary	99-102, 108, 119
Home Nursing	160	Ultra-Violet Light Clinic	105, 156-158
Illegitimate Children	152	Vans	31
Infant Consultations	136-138	Venercal Diseases	121-128
Infantile Mortality	139-143	Veterinary Inspector's Report	45-64
Infectious Diseases	69-96	Vital Statistics	11-26
Infant Welfare Visitors' Work	145-150	Voluntary Organisations	148
Lavatory Accommodation	29	Ward Statistics	14, 15
Local Acts	164	Water	28
Maternity and Child Welfare	129-154	Whooping Cough	85
Maternity Hospital	133	Workshops	38
Marriages	26	X-Ray Work	96

Health & Maternity & Child Welfare Committee.

December, 1928.

THE MAYOR (JOHN A. ORMEROD, Esq., J.P.).

ALDERMAN F. J. GREEVES, J.P., L.R.C.P., Chairman,

ALDERMEN—

WATSON, J.P., FRYARS, RAMSAY, J.P., L.R.C.P., AND GRIMSHAW.

COUNCILLORS

CAMPBELL

HOLDEN (J.)

HOLDEN (B.) (Vice-Chairman)

DEAN

HEYES

SMETHURST

MAKIN, J.P.

ODDIE

EDDIE

CRITCHLEY

HURLEY

KIRBY

COTTON

with the addition of

MISS K. HOWARD, MRS. M. WALSH, MRS. R. Y. AITKEN, MRS. M. BRADLEY,
MRS. S. A. O'DONNELL and MRS. W. TATTERSALL, B.Sc.

STAFF OF THE HEALTH DEPARTMENT:

Medical Officer of Health.

V. T. THIERENS, M.B., Ch.B., D.P.H.

Deputy Medical Officer of Health and Tuberculosis Officer.

G. C. F. ROE, L.R.C.P. & S.I., D.P.H., D.P.M.

Assistant Medical Officers of Health.

C. B. HOGG, M.D., M.B., Ch.B., D.P.H.

MISS ELLA G. F. MACKENZIE, M.A., M.D., M.B., Ch.B. (Edin.), D.P.H. (Birm.).

Veterinary Inspector and Chief Meat Inspector.

E. J. BURNDRED, M.C., M.R.C.V.S., D.V.H.

*JAMES GRAHAM, Chief Sanitary Inspector.

*W. H. GOODMAN, Assistant Meat Inspector.

*O. H. WILLIAMS, Special Inspector for Food and Drugs, etc.

*H. KENYON, Special Inspector for Factories and Workshops.

*J. ROWBOTHAM, Special Inspector for Drainage Work.

District Inspectors.

*J. W. MARGINSON. *W. WALNE. *H. W. FOWLER.

*J. A. SHAW.

Lady Health Visitors.

§†*Miss LOWE. §*Miss STANANOUGHT. §‡†Miss BELL. §‡†*Miss RUDD.

§‡†Miss CATLOW. §‡†Miss McLOUGHLIN.

†‡§Miss SUDWORTH (from 1/1/28).

Matron, Corporation Hospital—§‡†Miss CRITCHLEY.

Matron, Springfield Maternity Home—§‡†Miss BAMBRIDGE.

Tuberculosis Nurse—§‡Miss NIELL.

Chief Clerk—THOMAS FOWLER.

Clerks.

\$H. WALSH. *J. R. MARSDEN. Miss E. COMBERBACH. §J. MARGINSON.
Miss C. HAWORTH. W. PARKER. §R. HAYHURST. C. AINSWORTH.

Disinfectors.

F. HOLDEN. J. SLEVIN.

*Holders of Certificates of the Royal Sanitary Institute.

†Certificated Midwives.

‡Trained Nurses.

§A contribution to the salaries of these Officers is made from Exchequer grants.

CLINICS.

NAME.	PURPOSE.	WHERE HELD.	TIMES.
Inspection Clinic.	Special Examination of Cases Referred by Teachers, School Attendance Officers and School Nurses.	68, Victoria Street.	Wednesdays, 2 p.m. ; Saturdays, 9-30 a.m.
Ophthalmic Clinic.	Prescription of Spectacles.	68, Victoria Street.	Mondays, 1-30 p.m. Fridays, 1-30 p.m.
Dental Clinic.	Dental Treatment.	"	Every week day by appointment.
Minor Ailments Clinic.	Treatment of Minor Diseases of Skin, etc.	68, Victoria Street. All Saints' School, Bolton Road.	Every week day, at 8-45 a.m. Mondays to Fridays at 2-0 p.m. ; Saturdays, 9-0 a.m.
"	"		
Cleansing Station	Treatment of Scabies and Cleansing of Verminous Cases.	Throstle Street.	Tuesdays and Thursdays (by appointment).
Throat Clinic.	Operative Treatment of Adenoids and Enlarged Tonsils (Out-Patients). " (In-Patients).	Blackburn and East Lanes. R. Infirmary. Queen's Park Hospital.	Arranged as required.
Remedial Exercises.	Treatment of Deformities.	68, Victoria Street.	Arranged as required.
Tuberculosis Clinic.	Diagnosis and Treatment of Tuberculosis.	Dispensary, Duke Street.	Every week-day (except Wednesday), at 2 p.m. Tuesday, 7-0 p.m.
Orthopædic Clinic.	Supervision of Cripples, etc.	"	Third Friday in each month, at 4-0 p.m.
Maternity and Child Welfare Centres.	Child Welfare.	Princes Street P.M. School. Harwood St. School. Cornelian St. Institute. All Saints' Sch. Bolton Road. Harwood St. School. Kendal St. School. Griffin Parochial Hall	Monday, 2-0 p.m. Tuesday, 2-0 p.m. Tuesday, 2-0 p.m. Wednesday, 2-0 p.m. Thursday, 2-0 p.m. Thursday, 2-0 p.m. Friday, 2-0 p.m.
"	"	66, Victoria Street.	
"	"		
"	"		
"	"		
Ante-Natal Clinic.			Wednesday and Friday, at 10-0 a.m.
Special Ante-Natal Clinic.	(V.D.)	"	Tuesday, 10-0 a.m.
Strabismus Clinic.	Correction of Squint in infants under school age.	"	By special appointment.
Venereal Diseases Clinics.	(V.D.)	Royal Infirmary.	Men : Tuesday, 5-30 p.m. Friday, 6-0 p.m. Women : Monday, 5-30 p.m. Thursday, 6 p.m.
Ultra-Violet Light Clinic.	Artificial Light Treatment.	Corporation Hospital.	Mondays, Tuesdays, Thursdays & Fridays, 2 p.m.
X-Ray Clinic.	X-Ray Examinations.	"	Saturday, 11-0 a.m., and by appointment.

PUBLIC HEALTH OFFICE,

BLACKBURN,

March, 1929.

*To the Chairman and Members of the Health Committee of the County Borough
of Blackburn.*

MR. CHAIRMAN, LADIES AND GENTLEMEN,

I beg to submit, in accordance with the Sanitary Officers' Order, 1922, my first Annual Report on the work of the Department during the year ended December 31st, 1928.

The arrangement of this Report, which has been drawn up on the lines indicated in Circular 939 of the Ministry of Health, differs somewhat from that of previous Reports, although the matter dealt with is altered but little.

My thanks are due to all members of the Health Department Staff for the loyal and painstaking manner in which they have discharged their duties throughout the year.

In conclusion, Mr. Chairman, Ladies and Gentlemen, I wish to express my appreciation of the sympathetic manner in which you have received such suggestions as I have put before you, and of the help and encouragement you have given me at all times.

I am,

Mr. Chairman, Ladies and Gentlemen,

Your obedient Servant,

V. T. THIERENS.

PART I.

Vital Statistics
and
Social Conditions.

VITAL STATISTICS.

							1928
Area (in Aeres)	...	...	...	...	...	...	7,649
Population (Census, 1921)	...	...	...	...	...	...	126,643
,, (Estimated middle of 1928)	...	...	...	...	...	...	125,100
,, (Census, March, 1926)	...	...	...	...	...	...	126,497
Number of Inhabited Houses (1921)	...	...	...	...	...	...	30,948
,, „ „ (1928)	...	...	...	...	...	...	32,479
Number of Families or Separate Occupiers (1921)	...	...	...	...	...	...	31,608
Rateable Value	...	...	...	...	...	...	£761,874
Sum Represented by a Penny Rate	...	...	...	...	...	...	£2,863
Rate in the £ (excluding Water) 1927-8	...	...	...	...	...	...	16/-*
Gross Expenditure on Health Social Services	...	...	...	...	...	...	£41,475
Income on Health Social Services	...	...	...	...	...	...	£20,029
Net Expenditure on Health Social Services	...	...	...	...	...	...	£21,446

*Subject to 5% discount for early payment, making
a net rate of 15·2·4d.

Live Births	{ Legitimate	...	1642	M. 863	}	Birth Rate	...	13·8
	{ Illegitimate	...	88	F. 867	}			

Number of women dying in, or in consequence of, child-birth, from—

Sepsis	...	...	...	1	...	{ 0·008	per 1,000
Other Causes	...	...	...	6	...	{ 0·04	population

Deaths of infants under one year of age per 1,000 live births :—

Legitimate	...	...	...	...	...	...	...	81
Illegitimate	...	...	...	...	...	...	...	68·1
Deaths from Measles (all ages)	...	...	...	...	...	...	...	0·00
,, Whooping Cough (all ages)	...	...	...	...	...	...	...	0·03
,, Diarrhoea (under two years of age)	...	...	...	...	...	...	...	3·46
						(Per 1,000 births).		

Births :—The births registered were 1,730, of which 88 were illegitimate. The total male births were 863 and female 867. The birth rate was 13·8 per 1,000, compared with 16·7 for England and Wales, and 16·9 for the 107 great towns.

TABLE 1.

Year.	Birth Rate.	Death Rate.	Natural Increase 1,000 Population.
1894	29·5	17·7	11·8
1904	23·5	17·2	6·3
1914	20·8	14·9	5·9
1920	22·1	13·9	8·2
1921	19·5	12·7	6·8
1922	16·8	14·2	2·6
1923	16·2	13·4	2·8
1924	15·3	14·0	1·3
1925	14·9	13·9	1·0
1926	14·0	12·9	1·1
1927	13·7	14·9	-1·3
1928	13·8	12·2	1·5

The death rate of Blackburn males was 13·1, and of females 11·5 per 1,000 living of each sex.

Marriages :—There were 957 marriages solemnized during the year as follows :—Established Churches, 453; other places of worship, 372; Register Office, 132.

TABLE 2.

WARD DEATH RATES IN RELATION TO PERSONS PER ACRE
AND ROOM SPACE.

1921 CENSUS.

Ward.	Death Rate.	Persons per Acre.	Rooms per Persons.
St. Stephen's	12·2	9·5	1·08
Trinity	13·2	59·1	1·05
St. Michael's	11·3	14·4	1·10
St. John's	12·3	71·1	1·13
St. Silas'	9·7	9·1	1·50
St. Paul's	14·2	79·5	1·12
St. Peter's	17·4	50·5	1·05
St. Mary's	14·6	31·8	1·02
St. Matthew's	9·8	87·1	1·05
St. Thomas's	10·8	7·0	1·28
Park	13·1	14·6	1·08
St. Luke's	11·7	45·1	1·03
St. Mark's	11·7	25·9	1·13
St. Andrew's	11·7	11·6	1·07

TABLE 3.

DEATH RATES IN WARDS FOR THE PAST SIX YEARS.

Ward.	1923	1924	1925	1926	1927	1928	Av. for 6 Years
St. Stephen's ..	12·9	14·8	12·1	12·4	14·8	12·2	13·2
Trinity	16·5	14·8	14·2	11·8	18·1	13·2	14·8
St. Michael's	14·6	12·9	11·9	9·7	11·6	11·3	12·0
St. John's	10·7	14·3	13·0	12·4	13·4	12·3	12·7
St. Silas's	11·7	12·5	11·4	11·1	13·9	9·7	11·7
St. Paul's	14·7	15·9	15·2	14·1	13·3	14·2	14·6
St. Peter's	13·1	17·6	19·0	15·8	18·5	17·4	16·9
St. Mary's	18·3	18·4	21·5	22·6	21·1	14·6	19·4
St. Matthew's .. .	11·6	15·6	13·1	12·1	13·8	9·8	12·7
St. Thomas's	11·8	11·3	13·6	12·3	14·2	10·8	12·3
Park	13·1	14·6	13·8	13·6	11·7	13·1	13·3
St. Luke's	12·9	11·9	14·7	13·6	16·1	11·7	13·5
St. Mark's	11·2	9·3	11·6	10·8	14·6	11·7	11·5
St. Andrew's	16·1	14·8	14·3	13·4	17·4	11·7	14·6
Borough	13·4	14·0	13·9	12·9	14·9	12·2	13·5

TABLE 4.
VITAL STATISTICS DURING 1928.

WARDS	Popula-tion	Births	Deaths	Birth-Rate	Death-Rate	Deaths under one year per 1000 Births	Death-rate from six Zymotic Diseases excluding Diarrhoea	Death-rate from Diar-rhoea	Death-rate from Bron-chitis & Pneu-monia	Death-rate from Tuberculosis	Tuberculosis rate from Non-Pulmonary
St. STEPHEN'S ...	... 10883	169	133	15.5	12.2	47	0.09	0.0	2.6	0.8	0.09
TRINITY ...	... 8758	118	116	13.4	13.2	118	0.1	0.0	3.5	0.8	0.0
St. MICHAEL'S ...	... 8870	122	101	13.7	11.3	65	0.0	0.0	2.2	0.1	0.6
St. JOHN'S ...	... 7106	83	88	11.6	12.3	108	0.4	0.1	1.4	0.4	0.0
St. SILAS'S ...	... 8908	75	87	8.4	9.7	53	0.0	0.0	1.6	0.2	0.1
St. PAUL'S ...	... 9645	149	137	15.4	14.2	73	0.2	0.1	1.9	0.8	0.3
St. PETER'S ...	... 6630	110	116	16.6	17.4	127	0.1	0.0	3.4	1.3	0.3
St. MARY'S ...	... 5455	104	80	19.0	14.6	77	0.1	0.3	2.5	1.6	0.1
St. MATTHEW'S ...	... 9207	114	91	12.3	9.8	105	0.2	0.0	2.0	0.3	0.2
St. THOMAS'S ...	... 11923	154	130	12.9	10.8	77	0.08	0.08	1.5	0.3	0.0
PARK ...	... 9370	135	123	14.4	13.1	81	0.2	0.1	2.2	0.6	0.1
St. LUKE'S ...	... 7480	99	88	13.2	11.7	111	0.1	0.0	2.2	1.0	0.0
St. MARK'S ...	... 10295	116	121	11.2	11.7	51	0.09	0.09	1.6	0.3	0.09
St. ANDREW'S ...	... 10570	182	124	17.2	11.7	60	0.1	0.09	1.7	0.8	0.2
BOROUGH ...	... 125100	1730	1535	13.8	12.2	80	0.1	0.06	2.1	0.6	0.1

TABLE 5.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1928 AND PREVIOUS YEARS.

TABLE 6.

DEATHS REGISTERED DURING THE CALENDAR YEAR 1928 CLASSIFIED BY AGE AND CAUSE.

CAUSES OF DEATH.	All Ages	Nett Deaths at the subjoined ages of "Residents," whether occurring within or without the District.												Total Deaths whether of "Resi- dents" or "non- Residents" in Institutions in the District.
		Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 35 years.	35 and under 45 years.	45 and under 55 years.	55 and under 65 years.	65 years and upwards.	13	12	
		1	2	3	4	5	6	7	8	9	10	11	12	13
All Causes	1528	139	23	23	31	58	62	101	172	271	645	690	690	690
Certified	7	..	..	..	..	..	..	..	..	4	3	..	..	..
Small Pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Whooping Cough	4	2	..	2	..	..	..	..	..	..	..	..	..	1
Diphtheria and Croup	14	..	2	6	4	2	..	..	..	..	..	..	..	16
Influenza	19	..	..	..	1	1	..	..	2	3	4	8	2	2
Erysipelas	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Tetanus	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pulmonary Tuberculosis	82	..	..	..	2	24	22	15	11	8	..	..	..	24
Tuberculous Meningitis	7	..	..	1	1	1	2	..	..	2	..	..	..	3
Other Tuberculous Diseases	14	1	2	..	2	1	3	2	2	..	..	1	..	5
Cancer, Malignant Disease	163	..	..	..	..	2	15	25	48	73	..	..	..	74
Acute Rheumatism and Rheumatic Fever	2	..	..	..	..	1	..	..	..	1	..	..	..	1
Cerebro-Spinal Meningitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Encephalitis Lethargica	5	..	..	..	1	1	..	2	..	1	..	..	..	8
Other Forms of Meningitis (not T.B.)	14	3	2	2	4	1	..	1	..	..	..	1	..	11
Poliomyelitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Locomotor Ataxy	..	..	..	..	..	..	..	..	..	..	..	..	..	..
General Paralysis of the Insane	4	..	..	..	..	..	..	..	1	1	2	..	..	..
Cerebral Haemorrhage	97	..	..	..	..	..	..	..	1	9	30	57	..	25
Other Diseases of the Nervous Sys'm	55	5	1	..	2	2	2	2	10	7	24	..	..	23
Se rile Decay	56	..	..	..	..	..	..	..	..	..	..	56	..	36
Organic Heart Disease	334	4	..	..	2	5	7	12	35	63	206	..	..	130
Arterio-Sclerosis	15	..	..	..	..	..	..	..	..	1	1	12	..	5
Anourism	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases of the Circulatory System	19	..	..	..	..	3	..	..	3	7	6	..	..	4
Bronchitis, Acute	74	14	4	1	1	..	1	..	5	10	38	..	..	9
Bronchitis, Chronic	45	4	..	..	..	..	..	2	6	8	25	..	..	10
Influenzal Broncho Pneumonia	7	..	..	..	..	1	1	1	1	1	2	..	..	1
Pneumonia (other forms)	145	17	7	4	5	7	8	16	18	23	40	..	..	39
Other Diseases of the Respiratory System	25	1	..	1	1	..	..	4	3	6	9	..	..	12
Diarrhoea and Enteritis	8	4	2	..	..	..	..	..	1	..	1	..	..	3
Appendicitis, Typhlitis and Peritonitis	19	..	..	..	3	1	2	1	5	3	4	..	..	38
Cirrhosis of the Liver	1	..	..	..	..	..	..	..	..	1	..	..	..	1
Alcoholism	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Other Diseases of the Digestive Sys'm	29	2	1	..	..	..	..	6	6	5	9	..	..	29
Nephritis and Bright's Disease	31	..	..	..	..	1	3	2	7	6	12	..	..	11
Other Diseases of the Urinary Sys'm	26	..	..	..	..	..	1	1	3	3	18	..	..	22
Puerperal Fover	1	..	..	..	..	1	..	..	..	..	..	..	..	4
Puerperal Pyrexia	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases and Accidents of Pregnancy and Parturition	6	..	..	..	..	1	3	2	..	..	..	..	..	5
Congenital Dobility and Malforma'n	43	42	1	..	..	..	..	..	..	..	..	..	..	25
Premature Birth	28	28	..	..	..	..	..	..	..	..	..	..	..	8
Venereal Diseases	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases of the Reproductive System (Non-Malignant)	1	..	..	..	..	..	..	..	..	..	1	..	..	3
Violent Deaths (excluding Suicide)	50	3	3	2	1	3	1	3	5	10	19	..	..	51
Suicide	20	..	..	..	..	..	..	5	5	7	2	..	..	7
All other Defined Diseases	64	8	1	3	1	1	4	5	7	13	21	..	..	39
Diseases Ill-defined or unknown	7	..	..	1	..	..	..	..	5	1	..	..	..	..
All Causes	1535	139	26	23	31	58	62	101	172	275	648	690	690	690

TABLE 7.

CLASSIFICATION OF DEATHS ACCORDING TO DISEASE.

CAUSE OF DEATH.	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	Total Deaths	Death Rate.
	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	
Enteric Fever	4	1	..	..	..	1	..	1	2	1	..	0	0.00
Smallpox .....	..	..	..	..	..	..	..	..	..	..	..	..	0.00
Measles	39	..	18	3	32	6	20	28	3	36	..	0	0.00
Scarlet Fever.....	2	2	3	1	2	..	1	3	1	1	..	0	0.00
Whooping Cough	26	11	1	20	9	7	7	16	20	1	4	0	0.03
Diphtheria and Croup	11	3	10	6	7	1	3	8	8	11	14	0	0.11
Influenza	338	187	59	20	72	49	69	34	23	74	19	0	0.15
Erysipelas	1	1	..	2	1	2	1	..	1	7	..	0	0.00
Phthisis (Pulmonary Tuber- culosis)	126	116	82	77	96	93	85	90	106	96	82	0	0.65
Tuberculous Meningitis	17	10	14	5	10	4	4	9	2	2	7	0	0.05
Other Tuberculous Diseases..	20	17	15	19	16	27	22	11	8	12	14	0	0.11
Cancer, Malignant Disease ..	131	165	172	175	163	177	184	160	166	160	163	1	30
Rheumatic Fever	2	2	..	2	..	..	..	2	..	5	2	0	0.01
Meningitis	21	5	17	13	15	10	11	18	9	5	14	0	0.11
Organic Heart Disease.....	214	269	215	214	221	166	204	211	198	269	334	2	67
Bronchitis	189	269	231	163	224	209	238	194	192	221	119	0	95
Pneumonia (all forms).....	266	210	178	133	173	189	199	176	112	175	152	1	21
Other Diseases of Respiratory Organs	27	16	16	19	29	22	21	15	20	27	25	0	19
Diarrhoea and Enteritis	27	26	45	47	26	24	15	12	15	24	8	0	06
Appendicitis and Typhlitis..	7	9	12	11	8	9	4	10	13	12	19	0	15
Cirrhosis of Liver	6	3	3	11	5	10	5	5	2	3	10	0	008
Alcoholism .....	..	..	3	1	..	..	..	..	1	1	..	0	00
Nephritis & Bright's Disease.	65	51	52	56	39	53	51	44	59	40	31	0	24
Puerperal Fever	2	5	3	6	1	5	3	4	7	3	10	0	008
Other Accidents and Diseases of Pregnancy and Par- turition	9	6	13	5	14	9	7	7	7	10	6	0	04
Congenital Dobiility and Mal- formation, including Pre- mature Birth.....	73	84	130	104	98	100	59	68	76	66	71	0	56
Violent Deaths, excluding Suicide	52	40	48	46	43	36	49	46	52	60	50	0	39
Suicido	10	8	12	17	20	22	21	20	16	27	20	0	15
Other Defined Diseases	442	428	407	470	511	500	526	567	494	514	372	2	97
Diseases ill-defined or un- known	48	64	27	9	8	5	2	8	3	1	7	0	06
TOTAL.....	2175	2008	1786	1655	1843	1736	1810	1767	1616	1864	1535	12	27

Deaths :—The total number of deaths registered was 1,535, of which 748 were males and 787 were females. The death rate was 12·2 per 1,000, compared with 11·7 for England and Wales and 11·7 for the 107 great towns.

CAUSES OF DEATH AND SICKNESS.

During 1928 the chief causes of death were as under :—

<i>Disease.</i>	<i>No. of Deaths.</i>	<i>Deaths per 1,000.</i>
Organic Heart Disease	334 (269)	2·67 (2·16)
Cancer	163 (160)	1·30 (1·28)
Pneumonia	152 (175)	1·21 (1·40)
Bronchitis	119 (221)	0·95 (1·77)
Pulmonary Tuberculosis	82 (96)	0·65 (0·77)

The bracketed figures represent the corresponding number for 1927.

Diseases of bodily systems and group diseases to which death was assigned are as follows :—

<i>Disease.</i>	<i>No. of Deaths.</i>	<i>Deaths per 1,000.</i>
Circulatory System (Non-Tubercular) ...	368 (365)	2·94 (2·93)
Respiratory System (Non-Tubercular) ...	296 (423)	2·36 (3·30)
Nervous System (Non-Tubercular) ...	175 (171)	1·39 (1·37)
Cancer	163 (160)	1·30 (1·28)
Tuberculosis (all forms)	103 (110)	0·82 (0·88)
Diseases of Babyhood (under one year) ...	71 (66)	0·56 (0·53)
Digestive Diseases	57 (86)	0·45 (0·69)
Renal System (Non-Tubercular) ...	57 (54)	0·45 (0·43)
Infectious Diseases	37 (131)	0·29 (1·05)
Diseases associated with Maternity ...	7 (13)	0·05 (0·10)

The bracketed figures represent the corresponding number for 1927.

Perusal of these Tables shows that the total number of deaths ascribed to respiratory disease was 296, which corresponds to a death rate of 2·36 per 1,000 living.

As in 1927, organic heart disease was the greatest single cause of death, the death rate from this cause being considerably higher than in previous years. Other diseases of the circulatory system, not being organic heart disease, accounted for a further 34 deaths. For previous years the number of deaths from organic heart disease have been as under —

<i>Year.</i>	<i>1927</i>	<i>1926</i>	<i>1925</i>	<i>1924</i>	<i>1923</i>	<i>1922</i>	<i>1921</i>
Number of Deaths	269	198	211	204	166	221	214

The deaths from Cancer numbered 163, as compared with 160 in 1927 ; 166 in 1926 ; 166 in 1925 ; 184 in 1924 ; 177 in 1923 ; 163 in 1922 ; and 175 in 1921. There has been, therefore, no apparent definite increase in deaths from this cause during the past five years.

The Death Rates per 1,000 of the population for the past 11 years are as under :—

1917	...	...	1·34	1923	...	...	1·37
1918	...	...	1·17	1924	...	...	1·42
1919	...	...	1·30	1925	...	...	1·26
1920	...	...	1·22	1926	...	...	1·33
1921	...	...	1·36	1927	...	...	1·28
1922	...	...	1·26	1928	...	...	1·30

TABLE 8.

DEATHS FROM CANCER OCCURRED AT THE FOLLOWING AGES :

<i>Age Period.</i>	<i>Male.</i>	<i>Female</i>	<i>Total</i>	<i>No. of popu- lation at this age period.</i>	<i>Number of deaths per 1,000 persons living.</i>
Under 25 years . . . . .	..	..	.	41283	0·00
25 and under 35 years . . . . .	..	2	2	31150	0·06
35 . . . 45 years	2	13	15	19641	0·76
45 . . . 65 years	32	41	73	26271	2·77
65 years and over	32	41	73	6755	10·80
	66	97	163	125100	1·30

TABLE 9.

SITES OF FATAL CANCER.

<i>Site.</i>	<i>Male.</i>	<i>Female.</i>	<i>Total.</i>
Skin	—	1	1
Tongue and Mouth	7	1	8
Kidney	—	1	1
Oesophagus	9	1	10
Stomach	14	20	34
Liver	8	4	12
Bowel and Abdominal	9	23	32
Rectum	2	3	5
Bladder	2	1	3
Prostate	4	—	4
Larynx	3	—	3
Uterus	—	16	16
Breast	—	15	15
Ovary	—	4	4
Pancreas	3	1	4
Spleen	—	1	1
Gall Bladder	—	—	—
Bones	2	2	4
Lung	2	3	5
Male Genital Organs	1	—	1
TOTAL	66	97	163

In 1928 Cancer caused twice as many deaths in Blackburn as did Pulmonary Tuberculosis. In Table 8 it will be noted that the number of deaths from Cancer per 1,000 living is higher in the older than in the younger age groups. The most rapid rate of increase takes place in the age group 65 and over, in which group the rate is 8·03 per 1,000 higher than in the 45–65 age group.

Cancer of the alimentary tract accounts for 89, or 54·6% of the total number of deaths from this cause. Taking both sexes together, the stomach is the most frequent site to be attacked.

Amongst females the site of election appears to be the organs of reproduction, including the breasts. Of a total female mortality of 97, 35, or 36·07% of the cases were due to cancer of the ovary, uterus, or breast.

MORTALITY STATISTICS IN COTTON OPERATIVES.

The subjoined Tables are a continuation of those given in previous reports.

TABLE 10.

RESPIRATORY DISEASES (NON-TUBERCULAR).

DEATH-RATES PER 1,000 EMPLOYEES (1921 CENSUS).

DEATHS.

DEATH RATES.

Age Period.	Weavers.		Spinners.		Card Room Hands.		Other Craftsmen.		Boroughs.		Other Craftsmen.		Card Room Hands.		Weavers.		Spinners.		Winders, etc.		Card Room Hands.		Other Craftsmen.		Boroughs.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Years																										
15—25..	..	..	1	2	..	..	..	..	1	1	8	0·4	0·3	..	..	..	..	1·8	2·7	..	..	0·7	0·3	..	..
25—35..	..	..	1	1	..	..	2	1	1	10	0·7	..	..	..	..	..	..	1·2	1·1	..	..	1·1	0·4	..	..
35—45..	..	..	1	5	..	..	1	..	1	23	0·8	1·4	..	..	..	..	..	..	..	..	..	..	1·4	1·1	..	..
45—55..	..	..	2	7	..	..	..	..	1	33	2·0	4·1	..	..	..	..	..	..	..	..	..	..	2·4	2·0	..	..
55—65..	..	..	..	..	2	2	..	..	1	2	48	4·4	8·5	..	..	..	..	7·6	11·6	..	..	9·3	4·5	..	..
65 and upwards..	..	..	..	..	3	1	1	1	1	7	114	39·8	34·5	68·9	15·4	47·6	129·6	16·6	16·6	16·6	..	..	..	..	..	..
TOTAL	13	25	3	6	3	13	236	20	13	236	2·0	1·4	1·5	1·5	1·3	2·1	..	..	..	..	3·3	2·4	..	..

PULMONARY TUBERCULOSIS.

15—25..	..	1	7	..	2	1	3	2	2	24	0·4	0·9	..	..	..	..	1·2	1·8	..	..	2·2	1·1	..	..
25—35..	..	..	..	6	..	..	..	1	1	22	..	1·2	..	..	..	..	..	..	..	..	2·8	2·2	..	..
35—45..	..	..	2	3	..	..	2	..	..	15	1·7	0·9	..	..	..	..	2·4	..	..	..	1·4	0·7	..	..
45—55..	..	..	1	..	..	..	..	..	..	11	1·0	..	..	..	..	..	..	..	..	..	..	0·6	..	..
55—65..	..	..	1	..	..	..	..	..	..	8	1·5	..	..	..	..	..	..	..	..	..	..	0·7	..	..
65 and upwards..
TOTAL	5	16	..	4	..	..	..	6	80	0·8	0·9	..	..	..	..	..	..	..	..	..	1·4	1·6	..	0·8

TABLE 10—Continued.

Non-PULMONARY TUBERCULOSIS.

DEATHS.
DEATH RATES.

Age Period.	Weavers.		Spinners.		Boroughs.		Weavers.		Card Room Hands, etc.		Other Cotton Operatives.		Boroughs.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Years														
15—25..	1	1	1	1	2	0·4	2·0	0·9	2·8	..	..	..	..	..
25—35..	..	..	..	..	5	..	..	..	3·7	..	..	..	..	..
35—45..	..	..	1	1	2	..	..	..	..	..	..	..	..	..
45—55..	..	..	1	1	2	1·0	..	..	..	..	..	..	..	..
55—65..	..	..	1	1	2	..	..	..	..	..	..	..	..	..
65 and upwards..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Total	2	1	1	1	2	..	14	0·3	0·05	0·5	0·2	1·4	..	0·1
ALL OTHER DISEASES.														
15—25..	..	..	3	1	1	24	..	0·4	4·1	0·6	..	0·7	1·1	..
25—35..	..	..	8	1	1	25	..	1·6	2·0	..	..	..	1·2	..
35—45..	..	..	8	1	7	61	..	2·3	2·7	4·8	3·7	..	3·0	..
45—55..	..	..	5	1	126	..	2·9	4·4	17·9	..	..	..	7·8	..
55—65..	..	..	8	1	14	217	10·6	14·7	34·2	42·1	23·2	17·0	65·1	20·2
65 and upwards..	24	7	10	4	21	533	119·4	56·4	758·6	92·3	190·4	388·8	77·6	..
Total	39	41	32	31	7	43	986	6·2	2·3	16·4	7·1	4·9	12·0	10·2
GRAND TOTAL... ..	59	83	36	42	14	62	1316	9·3	4·6	18·4	9·6	9·8	17·3	13·6

TABLE 11.

POPULATIONS, 1921 CENSUS.

Age Period.	Weavers.		Spinners.	Winders, Warpers, etc.	Card Room Hands.	Other Cotton Operatives.	Borough.
	M.	F.					
Years							
15—25..	2019	7009	723	1616	530	1329	21946
25—35..	1258	4892	490	1094	359	899	20876
35—45..	1151	3380	367	819	269	674	19878
45—55..	1000	1707	224	501	164	412	16052
55—65..	660	676	117	261	86	215	10647
65 and upwards..	201	124	29	65	21	54	6866
TOTAL	6289	17788	1950	4356	1429	3583	96265

SOCIAL CONDITIONS.

The chief industry in Blackburn is Cotton Weaving and allied processes.

The year under review has been one of great industrial depression, with consequent unemployment.

As will be noticed in Table 10, the death-rates from Respiratory Diseases (Non-Tubercular) and Pulmonary Tuberculosis amongst the Cotton Operatives in the Borough are lower than in 1927.

POOR-LAW RELIEF.

BLACKBURN UNION.

I am indebted to Mr. G. B. Pye, the Clerk to the Guardians, for the following particulars :—

Number of Residents in the Blackburn Township in receipt of Out-door Relief on the

1st January, 1928 ... 1681 families, comprising 3866 persons.

1st July, 1928 ... 1466 families, comprising 3018 persons.

1st January, 1929 ... 1499 families, comprising 3207 persons.

Number of persons relieved in the Guardians' Institution on the

1st January, 1929 838

And in the Cottage Homes on the same day 74

Expenditure on Out-Relief to Blackburn Persons during the Twelve months ending the 30th September, 1928 :—

Half-year ended 31st March, 1928 £26,962 11 1

Half-year ended 30th September, 1928 £24,551 3 1

Number of Blackburn Township Cases in the Queen's Park Hospital at the end of 1928...

341

(*This number is included in the 838 mentioned above.*)

HOSPITAL ACCOMMODATION.

(1.) *Infectious Diseases* :—

The Corporation Hospital, in Longshaw Lane, has accommodation for 64 fever patients. In time of great prevalence of infectious disease, closure of the Open-Air School Block would provide 36 additional beds for Fever cases, bringing the Fever bed accommodation to 100.

The Finnington Hospital, which is situated three miles outside the Borough, has beds for the reception of 60 Small-Pox cases.

(2.) *Tuberculosis* :—

Thirty-four beds, for the reception of Tuberculous cases, are available at the Corporation Hospital.

Nine beds for the reception of early cases of Tuberculosis are retained by the Corporation at Meathop Sanatorium, Grange-over-Sands.

(3.) *Maternity* :—

The Municipal Maternity Home, Preston New Road, has accommodation for 20 cases.

(4.) *Children* :—

There is no Children's Hospital in the Borough. Cases of Tuberculosis in children are received either into the Sanatorium block or into the Residential Open-Air School at the Corporation Hospital.

By arrangement with the Guardians, accommodation is available at Queen's Park Hospital, for the treatment of delicate and crippled children.

Forty beds are available at the Royal Infirmary for children under the age of 14.

(5.) *Orthopaedics* :—

There is no special Orthopaedic Hospital in Blackburn.

Orthopaedic cases are received into the Blackburn and East Lancashire Royal Infirmary and the Queen's Park Hospital.

(6.) *The Blackburn and East Lancashire Royal Infirmary :—*

The opening of the War Memorial Wing in August, 1928, increased the accommodation from 152 to 238 beds. The beds are allocated as follows :—

Males ..	...	...	...	...	90
Females ..	...	...	...	...	108
Under fourteen ..	...	...	...	...	40

I am indebted to the General Superintendent and Secretary for this information.

(7.) *Queen's Park Hospital (Blackburn Union) :—*

I wish to thank Mr. G. B. Pye, Clerk to the Guardians, for the following particulars :—

Total Number of Beds at the Guardians' Institution and Cottage Homes on the 1st January, 1929	...	...	...	...	1369
Total Number of Inmates on the same day	...	...	...	...	1214
Total Number of such Inmates who were suffering from Sickness, accident, or bodily or mental infirmity, including aged and infirm persons requiring regular nursing care or treatment	...	...	...	...	1089
Total Number of Sick Children on the 1st January, 1928	...	...	...	...	136
Admitted during 1928	...	...	...	...	446
Discharged or Died...	...	...	...	...	451
Number remaining on the 1st January, 1929	...	...	...	...	131

AMBULANCE FACILITIES.

(1.) *For Infectious Cases :*

The Local Authority provide Three Motor Ambulances.

(2.) *For Non-Infectious Cases :*

Two Motor Ambulances are available, one of which is provided by the Watch Committee, and the other by the Joint Committee of the British Red Cross Society and the St. John's Ambulance Brigade.

PART II.

Sanitary Circumstances.

SANITARY CIRCUMSTANCES OF BLACKBURN.

(1) Water Supply.

The Blackburn Water Supply is an upland surface water and has been found satisfactory during the year.

The average daily consumption of water has been 4,453,935 gallons, an average of 31.36 gallons per head.

Samples have been taken at intervals during the year and the following are the latest reports :—

(i.) Chemical Examination :

Colour : Dark Brown.	Turbidity : Slight.	Smell : None.			
Oxygen absorbed at 27° in four hours in acid solution			0.0084		
Free and Saline Ammonia			As NH ₃	0.0030	
Albuminoid Ammonia			"	0.0090	
Nitrous Nitrogen			"	None	
Nitric Nitrogen			"	0.024	
Chlorides			As Cl	1.0	
Phosphates			As H ₃ PO ₄	Nil.	
Hardness—Temporary			As CaCO ₃	Nil.	
Permanent			"	2.0	
Total			"	2.0	
Reaction : Lacmoid, Acid. Methyl Orange, Alkaline. Phenolphthalein, Acid.					
Action on bright lead foil in 24 hours					1.0
All the numerical results are expressed in parts per 100,000.					

(ii.) Bacteriological Examination :

Quantitative Analysis.	Average Results of Two Examinations.
(a) Aerobic micro-organisms growing in three days in nutrient gelatine at 20° C. to 21° C.	No. of colonies in one gramme (15.43 grains) of water.
Non-liquefying bacteria	125
Liquefying bacteria	40
	Total 165

Qualitative Analysis.	Quantity of water in which these bacteria were found	not found
(a) Bacteria associated with sewage or faecal pollution .. Bacillus coli communis ..	100 cc.	10 cc.

(2) Housing.

During the year 94 houses have been built by the Corporation and 41 by private enterprise. At the end of the year 60 Corporation Houses and 70 private enterprise houses (none of which were State aided) were in the course of erection.

The total number of houses completed and occupied on the various housing sites of the Council was, at the end of the year, 705. Notwithstanding the progress of municipal and private building schemes, 471 Blackburn residents living in rooms were on the waiting list for Corporation houses at the end of 1928.

Compared with many of the East Lancashire industrial towns the conditions under which the majority of Blackburn residents are housed must be considered satisfactory. It can be stated that Blackburn possesses no real slums, although a few areas still remain where the property is unsatisfactory, either as regards structure, state of repair, general surroundings, or a combination of these defects.

(3) *Sanitary Accommodation and Scavenging :*

I am indebted to the Borough Engineer for the subjoined particulars of work done during 1928 :—

(I.) *Sanitary Accommodation :*

Privies	14
Pail Closets	125
Slop Water Closets	2280
Fresh Water Closets	37479
	—
	39898

Conversions :

Pail Closets by Owners	1
Pail Closets by Corporation	0
Wet Pits by Corporation	0
Tipplers by Owners	41
Tipplers by Corporation	1

(II.) *New Sewers :*

Parsonage Road	9-in sewer ..	40 yards
St. Francis Road	9-in. sewer ..	19 yards
Hey's Lane	9-in. sewor ..	160 yards
Coniston Road	9-in. sower ..	109 yards
Roe Lee Cottages	6-in. sewer ..	70 yards
Intack Housing	9-in. sewer ..	37 yards
Intack Housing	6-in. sewor ..	17 yards.

(III.) *Lavatory and Urinal Accommodation :*

This is the same as last year.

(iv.) *Collection of Refuse :*

	<i>Loads</i>	<i>Tons</i>	<i>Cwt.</i>	<i>Qrs.</i>
Houso Refuso	15364	24655	6	1
Fish Refuso	1	0	7	0
Market Refuse	754	890	1	2
Midden Refuse	32	54	13	0
Shop and Trade Refuse	638	633	6	0

There have been no extensions or improvements during the year of methods of scavenging and refuse disposal, which remain satisfactory.

(v.) *Ashpit and Ashtub Conversions :*

No. of Ashtubs Abolished .. .. .. .. ..	..	..	..	..	8
No. of Bins substituted in lieu of same .. .. .. .. ..	..	..	..	..	8
No. of Ashpits Abolished .. .. .. .. ..	..	..	..	..	9
No. of Bins substituted in lieu of same .. .. .. .. ..	..	..	..	..	28
Approximate					
No. of Ashbins in use .. .. .. .. ..	..	..	..	..	32749
No. of Ashtubs in use .. .. .. .. ..	..	..	..	..	1
No. of Dry Ashpits in use .. .. .. .. ..	..	..	..	..	50
No. of Wet Ashpits in use .. .. .. .. ..	..	..	..	..	16
No. of Excreta Pails in use .. .. .. .. ..	..	..	..	..	131
No. of Tanks in use .. .. .. .. ..	..	..	..	..	14

Houses Let in Lodgings.

The register contains particulars of 88 such premises, which contain 431 rooms, and afford accommodation for approximately 700 adults and 301 children.

Weekly inspections have been made as careful supervision is essential to ensure that the houses are kept clean. Two thousand five hundred and thirty-two visits have been paid during the year by members of the Health Department Staff.

Although the accommodation is poor the rents charged are excessive, and in some instances the rent for two partly furnished rooms exceeds that demanded for houses on the Corporation Estates.

Common Lodging Houses.

During the year there has been no occasion to take legal proceedings in respect of Common Lodging Houses.

There are 14 registered Common Lodging Houses in the Borough, which provide accommodation for 654 persons.

Tents, Sheds, Caravans, etc.

At the end of the year there were 57 caravans in the Borough used as human habitations.

Constant sanitary survey is necessary if the caravans and their surroundings are to be kept in a cleanly and sanitary state. The majority of caravans are on land without proper drainage, water or other sanitary facilities, the dwellers relying on near-by houses for their water supply and sanitary accommodation.

During the year 172 visits were paid to this class of dwelling.

The general cleanliness of the travelling vans which came to Blackburn during the Easter holidays was satisfactory.

Underground Sleeping Rooms.—Housing Act, 1925, Section 18 (1).

There are no underground sleeping rooms in the district.

Canal Boats Acts, 1877 and 1884.

Two hundred and forty-nine boats were inspected during the year. There are 88 boats on the register, six of which have not been traced. One new boat has been registered.

Seven infringements of the Acts have been detected as follows :—

Two masters without certificates, three certificates required renewing, and two certificates produced did not correspond with the markings on the boats. Seven statutory noticees have been served notifying the owners of the infringements, and the necessary corrections have been made. No case of infectious disease occurred, and there has been no detention of boats for cleansing or disinfection.

Offensive Trades.

The number of offensive trades within the Borough is 29, of which 17 are bone, and rag and bone dealing, four are bone boiling or fat rendering, two are gut-scraping, four are tripe-boiling, and two knackering.

Nuisances arising in connection with offensive trades are influenced by the amount of care exercised in the storage of the raw material and waste products. Careless methods of storage and production have been responsible for the majority of nuisances reported, and attention paid to these details has resulted generally in abatement of the nuisance complained of.

Nuisances :

Table 12 contains a statement of the number of the various nuisances discovered during the year, and Table 13 shows the sanitary improvements made and defects remedied under the supervision of the Sanitary Inspectors.

TABLE 12.
INSPECTION WORK.

				1927		1928
No. of Complaints by Inhabitants	..	..	..	381	..	343
No. of Complaints referred from other Departments	..			71	..	63
No. of Special Inspections for suspected nuisances	..			192	..	28

No. of Nuisances Discovered as Result of :—

Complaints by Inhabitants	..	..	..	552	..	741
Visiting Cases of Infectious Diseases	..	..		150	..	194
Special Inspections	..	..	..	310	..	151
Complaints from other Departments	..	..		98	..	75
Notifications of H.M. Inspector of Factories	..			39	..	70
Routine Inspection Visits	..	..	..	2671	..	2441
Housing and Town Planning Inspections	..	..		821	..	1342
Total number of Defects found	..	..	..	4819	..	5301
Total number of Defects remedied	..	..	..	4483	..	5431
No. of Informal Notices Served	..	..	..	1686	..	1658
No. of Formal Notices Served	..	..	..	246	..	262
No. of Informal Notices complied with	..	..	..	1315	..	1299
No. of Formal Notices complied with	..	..	..	215	..	203
No. of Interviews	..	..	..	414	..	521
No. of Letters sent out	..	..	..	135	..	99

Sanitary improvements made and defects remedied under the supervision of the Sanitary Inspectors :—

TABLE 13.

DWELLING HOUSES.

Water supply improved	—
Cleansed and limewashed	102
Overcrowding abated	6
Damp and defective house, walls, roofs, etc.....	627
Defective gutters and down- spouts.....	518
Cleansing dirty floors	28
" " woodwork	—
" " dirty yards.....	141
" " bedding	2
" " windows	—
" " gully traps	47
" " cellar areas.....	1
Obstructive buildings removed ..	1
Defective sink waste pipes	154
Defective dishstones.....	15
Waste pipes disconnected from drain	—
Yards and passages reflagged	15
Flooding of houses	—
Yards badly paved or flagged....	61
Insufficient ventilation of rooms..	—
Defective chimney flues	40
Window sash frames, cords, internal walls, ceilings, floors, stairs, fireplaces, doors, cup- boards to be repaired.....	1041
Dangerous and defective chim- ney stacks	114
Fractured internal walls	14
Gas pipes repaired.....	16
Water pipes repaired	149
Yard division walls	99
Defective and bulging external walls	124
Dry rot	—

BAKEHOUSES.

Cleansed and limewashed.....	101
Sanitary accommodation im- proved	3
Drains repaired.....	—
Animals removed	—
Other nuisances abated	6

DAIRIES, COWSHEDS, AND

MILKSHOPS.

Reconstructed	16
Dairy	—
Middensteads	1
Floors repaired	10
Improved Lighting	2
Improved ventilation	2
Improved drainage	—
Cubic space increased	—
Internal walls and ceilings re- paired.....	6
Improved yard space	—

ICE CREAM MANUFACTORIES.

Cleansing and limewashing	47
Sanitary conditions improved....	10

SCHOOLS.

Playgrounds—repairs to drains ..	5
" repairs to asphalt.....	2
" repairs to paving..	—
" repairs to flags....	3
Urinals repaired or improved	1
Sanitary accommodation repaired or improved.....	1

WORKSHOPS & WORKPLACES.

Cleansed and limewashed	29
Provided with sufficient sanitary accommodation	—
Sanitary condition improved	5
Ventilation improved	1
Overcrowding abated	—
Drains repaired.....	3
Other nuisances abated	17

DRAINS.

Re-constructed	36
Re-layed with cement joints	81
Cleansed or repaired	278
Under houses (abolished).....	1
Opened out for inspection	35
Connected to sewer	—
Intercepting traps provided	1
Soil pipes repaired.....	14
Inspection chambers built	11
Self-cleansing gullies furnished ..	70

WATER CLOSETS.

Cleansed.....	80
Repaired	102
Cisterns and flushing fittings re- paired.....	283
Provided in substitution of slop- water closets	25

PAIL CLOSETS.

Nuisance abated	—
Converted to W.C.'s	—
Tipplers converted to pedestal wash-down.....	34

OFFENSIVE TRADES PREMISES.

Limewashed	29
------------------	----

COMMON LODGING-HOUSES.

Cleansed and limewashed	28
Total nuisances abated	20

TABLE 13—(Continued).

OFFENSIVE ACCUMULATIONS.		ASH RECEPTACLES.	
Removed	130	Repaired	—
ANIMALS KEPT AS TO BE A NUISANCE.		Portable receptacles provided....	113
Nuisances abated	8	REMOVING MANURE.	18
SEWERS.		Reconstructed middensteads	2
Cleansed.....	32	HOUSES LET IN LODGINGS.	
SLOP-WATER CLOSETS.		Nuisances abated	134
Nuisances abated	23	CANAL BOATS.	
Converted to W.C.'s	25	Cask for water provided	—
ASHPITS.		Certificates renewed	3
Abolished	333	Leaky condition	—
		Repairing and Painting	—
		Masters without Certificates	2
		Unsuitable Certificates	2

DETAILS OF INSPECTION WORK

Schools.....	60	Dirty Houses	184
Hospitals	—	Common Yards, Back Roads and Passages	8113
Tents, Vans, Sheds.....	172	Infected Houses	3058
Factories	614	Work in progress.....	9271
Workshops	1819	Housing and Town Planning Acts...	3201
Workplaces	275	Fishmongers and Greengrocers....	491
Bakehouses—Ordinary	923	Ashes Receptacles	288
Underground	4	Food Preparing and Storing Places.	266
Cowsheds	13	Outworkers' Premises.....	8
Dairies and Milkshops	1809	Enquiries <i>re</i> Milk Supply	10
Ice Cream Premises	248	Dwelling Houses <i>re</i> Nuisances	3713
Offensive Trade Premises	497	Samples of—	
Fried Fish Shops.....	640	Water procured	2
Common Lodging Houses	546	Milk purchased for Sediment Test	446
Stable Premises	735	Milk purchased for Bacterio- logical Examination	97
Offensive Accumulations	131	Milk purchased for Bacterio- logical content.....	221
Animals so kept as to be a nuisance	8	Freezing of Closets.....	—
Sewors	32	Labelling of Condensed Milk Tins.	247
Street Gullies	169	Insufficient Water Supply.....	319
Canal Boats.....	249	Miscellaneous	111
Smoke Observations	114		
Theatres and Cinemas	162		
Houses Let-in-Lodgings.....	2532		

HOUSING.

I.—NUMBER OF NEW HOUSES ERECTED DURING THE YEAR:—

Dwelling Houses :—Inspection.

(1) Total number of Dwelling Houses inspected for housing defects (under P.H.A. or Housing Acts)	4963
(2) No. of Dwelling Houses which were inspected and recorded under the Housing (Inspection of District) Reg. 1910..	96
(3) No. of Dwelling Houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	—
(4) No. of Dwelling Houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation	2830

2.—REMEDY OF DEFECTS WITHOUT SERVICE OF FORMAL NOTICES:

No. of Defective Dwelling Houses rendered fit in consequence of informal action by the Local Authority or their Officers 1962

3.—ACTION UNDER STATUTORY POWERS :—

A.—Proceedings under Section 3 of the Housing Act, 1925.

(i) No. of Dwelling Houses in respect of which Notices were served requiring repairs	10
(ii) Number of Dwelling Houses which were rendered fit after service of formal notices—	
(a) By Owners { <i>Complete</i> .. <i>In progress</i> ..	1
(b) By Local Authority in default of Owners..	7
(iii) No. of Dwelling Houses in respect of which Closing Orders became operative in pursuance of declarations by Owners of Intention to close	—

B.—Proceedings under Public Health Acts.

(i) No. of Dwelling Houses in respect of which Notices were served requiring defects to be remedied	312
(ii) No. of Dwelling Houses in which defects were remedied after formal notices—	
(a) By Owners	280
(b) By Local Authority in default of Owners.. ..	—

C.—Proceedings under Sections 11, 14, and 15 of the Housing Act, 1925.

No proceedings have been taken under the above.

Underground Sleeping Rooms.—Housing Act, 1928, Section 1.

No such rooms are known to the Staff of the Department.

THE TESTING OF DRAINS.

No. of Smoke Tests	508
No. of Water Tests	137
No. of Colour Tests	348
Breaking Down	40
Inspections made while work was in progress	1504
Total number of Defects found	235
No. of Informal Notices Served	121
No. of Formal Notices Served	5
No. of Defects Completed	213
No. of Defects outstanding at end of 1928	22

THE RAG FLOCK ACTS, 1911 & 1928.

There are three premises in Blackburn where rag-flock is used. The flock is not manufactured locally, but is purchased under guarantee of Government Standard of Cleanliness.

The three premises concerned are visited in the course of routine district inspections.

TABLE 14.

FACTORIES, WORKSHOPS AND WORKPLACES.

I.—INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

PREMISES.	NUMBER OF		
	Inspections (2)	Written Notices (3)	Prosecutions (4)
(1)			
FACTORIES	614	13	...
(Including Factory Laundries)			
WORKSHOPS	1819	29	...
(Including Workshop Laundries)			
WORKPLACES	275	...	...
(Other than Outworkers' premises)			
TOTAL	2708	42	...

2.—DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

PARTICULARS.	Number of Defects.			Number of offences in respect to which prosecut'n's were insti- tuted. (5)
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	
(1)				
<i>Nuisances under the Public Health Acts :—</i>				
Want of Cleanliness	40	41	...	...
Want of Ventilation	1	1	...	...
Overcrowding ... ... ..	...	...	...	...
Want of drainage of floors ... ... ..	...	...	...	...
Other Nuisances	23	25	...	...
<i>Sanitary Accommodation :—</i>				
Insufficient...	6	5	...	...
Unsuitable or defective	72	90	...	...
Not separate for sexes	1	1	...	...
<i>Offences under the Factory and Workshops Acts :—</i>				
Illegal occupation of underground bakehouse (s. 101) ... ... ..	...	...	...	...
Other offences	82	77	...	...
(Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921.)				
TOTAL	225	240	...	...

TABLE 15.**FACTORIES.**

Sanitary Accommodation : Conversion to water carriage system is considered desirable. Accommodation for women is not screened to secure privacy.

Notice sent and arrangements were made for sewage disposal, but the new sewer has not yet been started.

Sanitary Accommodation (Women) : Insufficient accommodation is provided, there being only one convenience for 70 women employed.

Existing sanitary conveniences placed at the disposal of the women employees.

Sanitary Accommodation : The accommodation was found in an insanitary condition, and proper means of ventilation were not provided.

The conveniences for women have no doors, and are only separated by short partitions. They open directly from the weaving shed and from the winding room without an intervening ventilated space.

Notice was sent and all the sanitary conveniences were converted to a modern principle.

Sanitary Accommodation for Women : The accommodation was found in an insanitary condition, owing to imperfect flushing apparatus. Effluvia was noticed, and the conveniences were not clean.

Notice not required, as the defects had been remedied.

Sanitary Accommodation : The accommodation for both men and women is of an obsolete type, leading directly from the weaving shed without an intervening ventilated space.

The conveniences are not provided with means of ventilation, and were found in an insanitary condition. The women's conveniences are not provided with doors.

Notice sent, and a scheme for the complete conversion of the sanitary conveniences was approved, but the work has not yet been started.

Sanitary accommodation is unsuitable on the following grounds :—(1) Distance from factory ; (2) Not sufficiently weatherproof ; (3) Uncleanly condition ; (4) Infrequency of emptying tub. At the time of visit it was overfull.

Notice was sent and a modern pedestal W.C. was constructed.

The W.C.'s for women, in the yard, are not sufficiently screened, and the inside fastenings are ineffective in some cases.

Notice sent, and the entrances and screens were re-arranged and fastenings fixed to the doors.

Sanitary Accommodation : No sanitary accommodation provided.

Notice sent, and a pail closet has been partly completed.

Limewashing of ceilings, etc., is not carried out every six months ; last date, 6th August, 1927.

Notice sent, and work completed.

No Sanitary Accommodation.

Notice sent for two sanitary conveniences. Work not completed.

Sanitary Accommodation: The conveniences provided for the ironing room were so much out of repair that due privacy was not secured, the door of one convenience was off its hinges, and that of the other had been partly cut away.

Notice sent and defects remedied.

Three of the sanitary conveniences for females were not provided with doors.

Notice sent and defects remedied.

Limewashing overdue; last registered date, 10/1/28.

Notice sent and limewashing completed.

Sanitary accommodation not sufficient. There is only one closet (dry) for about 35 males, and three for about 85 females. The accommodation was also in an uncleanly condition. Water-closets are desirable and apparently feasible.

The matter was referred to the Borough Engineer to provide a sewer. Work not yet started.

The doors of four W.C.'s for women had been removed.

Doors replaced. No notice required.

Three W.C.'s only are provided for the use of over 75 males.

Notice sent for two additional sanitary conveniences. Work not yet started.

Limewashing is carried out at 12-monthly intervals, instead of six.

Notice sent and the limewashing done.

TABLE 16.

WORKSHOPS.

Walls, etc., in need of limewashing.—Notice sent. Work done.

Workshop requires cleansing.—Notice sent. Work done.

Workshop requires cleansing.—Notice sent. Work done.

Workshop requires cleansing. Notice sent. Work done.

Workshop, and men's W.C. require cleansing.—Notice sent. Work done.

Workshop requires cleansing.—Notice sent. Work done.

Workshop, and the approach thereto, require cleansing.—Notice sent. Work done.

Bakehouse insufficiently ventilated.—Referred back. Not in the Borough.

Workshop requires cleansing.—Notice sent. Work done.

The workshop is in a very dirty condition. Notice sent. Work done.

There is not a properly ventilated intervening space between the W.C. and Workroom.—

Notice sent. Work not yet started.

Front Room on first floor requires cleansing.—Notice sent. Work not yet started.

Workrooms require cleansing. Roof in need of repair, rain coming through, making ceiling and walls damp.—Notices sent to owner and occupier. All the necessary work carried out.

OUTWORKERS.

During 1928 three lists of outworkers were received from two makers of wearing apparel. The lists contained the names of four contractors and six workers. The premises were inspected and were found to be satisfactory.

TABLE 17.
DISINFECTION

Number of Rooms Sprayed :—

CLEANSING OF PERSONS

During 1928 10 persons were dealt with at the Throstle Street Disinfecting and Cleansing Station. The conditions for which baths were given were as under :—

Verminous Conditions	..	..	..	..	..	..	3
Scabios	..	..	..	..	..	..	6
Scarlet Fover	..	..	..	..	..	..	1

Eight of the persons dealt with were referred from the School Medical Department. The total number of baths given was 28.

SMOKE OBSERVATIONS.

There are 181 factory chimneys in the town, 103 of which are provided with smoke preventing appliances. The types of appliances are as under :—

Proctor's Mechanical Stokers	..	..	..	..	..	75
Leach Mechanical Stokers	..	..	..	..	..	6
Bennis Mechanical Stokers	..	..	..	..	..	3
Hodgkinson Mechanical Stokers	..	..	..	..	..	3
Whittaker's Mechanical Stokers	..	..	..	..	..	1
G.S.E. Mechanical Stoker	..	..	..	..	..	1
Sirocco Fans	..	..	..	..	..	3
Super Heaters	..	..	..	..	..	7
Edgar Allen Green's	..	..	..	..	..	4

During the year 103 smoke observations were made, and in 54 smoke was emitted in excessive quantities. Twenty-three notices were served during the year, of which 21 were informal and two statutory.

The standards of smoke permissible from a factory chimney in Blackburn are as follows :—

One boiler ..	..	..	..	4 minutes black smoke in the hour.
Two boilers	..	..	..	5 " " "
Three boilers	..	..	..	6 " " "
Four boilers or more	..	..	7	" " "

THE SANITARY CONDITION AND WATER SUPPLY OF SCHOOLS.

The following Table gives details of the Sanitary Accommodation provided at the Schools in the Borough :—

TABLE 18.

	School Population	Water Closets			Urinals		Pail Closets		No. of Children to each W.C.
		No. of pedestal W.C.'s flushed with separate cisterns	No. of pedestal W.C.'s flushed with automatic cisterns	Automatically	By Hand	No. with sparge pipes	No. without sparge pipes		
Accrington Road C.	463	27	..	..	..	18	..	..	17
Audley Range C.	334	..	..	13	..	9	..	..	26
Bank Tep C.	339	2	..	..	12	6	6	..	24
Bangor Street C.	443	..	25	..	..	18	..	..	18
Blakey Meor Central	767	7	28	..	..	20	..	..	22
Cedar Street C.	441	18	..	..	..	16	..	..	24
Christ Church C.E.	608	..	15	5	5	7	8	..	24
Emmanuel C.E.	380	..	..	21	..	..	10	..	18
Furthergate C.	320	..	..	14	..	8	..	..	23
Fleur Lanes End C.	133	..	..	6	..	..	10	..	22
Griffin C.E.	340	2	12	..	..	10	6	..	24
Holy Trinity C.E.	488	3	13	..	..	..	10	..	30
Lewer Darwen C.	123	..	..	9	..	..	5	..	14
Mill Hill C.	318	..	14	7	..	..	20	..	15
Maudsley Street British	335	1	..	9	..	8	..	..	33
Moss Street C.	345	2	11	..	..	..	10	..	26
C. of E. Central	507	2	13	..	..	18	..	..	34
Park Road C.	490	13	..	..	..	..	4	..	38
Regent Street Special	22	2	6	..	..	3	..	..	3
St. Aidan's C.E.	286	12	4	..	..	..	10	..	18
St. Alban's R.C.	868	6	..	10	..	..	13	..	54
St. Alban's Higher Grade (Boys)	129	6	..	..	..	..	10	..	21
St. Anne's R.C.	755	2	..	20	..	..	9	..	34
St. Andrew's C.E.	237	..	..	11	..	..	6	..	21
St. Barnabas' C.E.	446	..	13	..	..	..	8	..	34
St. Bartholemew's C.E.	263	..	..	13	..	..	12	..	20
St. Gabriel's C.E.	217	..	..	7	..	..	4	..	31
St. James' C.E.	193	1	9	..	..	..	8	..	19
St. James' C.E. (Black-a-Moor)	95	..	3	4	..	8	..	..	13
St. James' C.E. (Guide)	135	..	..	10	..	2	6	..	13
St. John's C.E.	631	..	..	23	..	9	..	..	27
St. Joseph's R.C.	542	2	..	14	..	..	9	..	34
St. Luke's C.E.	296	..	14	..	..	..	9	..	21
St. Michael's C.E.	248	..	..	6	6	4	..	..	21
St. Matthew's C.E.	359	1	..	12	..	..	10	..	27
St. Mary's R.C.	547	1	..	10	..	4	4	..	49
St. Paul's C.E.	372	..	13	..	..	4	..	..	28
St. Peter's C.E.	287	15	..	..	..	..	15	..	19
St. Peter's R.C.	441	1	19	..	..	17	..	..	22
St. Stephen's C.E.	322	1	..	21	..	..	7	..	11
St. Silas' C.E.	343	..	16	..	..	6	6	..	21
St. Thomas' C.E.	540	..	12	..	..	..	12	..	45
Sacred Heart R.C.	130	1	..	8	..	3	..	..	14
Wensley Fold C.E.	303	2	5	..	3	10	..	..	30
Witten C.E. (Infants)	80	..	6	..	..	6	..	..	13
TOTALS		130	251	253	26	214	247	..	..

Water at the Schools is drawn from the Corporation mains and is satisfactory as regards quantity and quality.

A sanitary survey of each school is made three times each year by the Assistant School Medical Officer, who reports thereon to the School Medical Officer who is also Medical Officer of Health. Any sanitary defects found are reported to the Education Authority, who take such action as may be necessary.

Absences from school due to sickness are reported to the School Medical Department through the School Attendance Officers.

Much valuable information regarding the existence of non-notifiable infectious disease has reached the Health Office through the agency of Head Teachers and School Attendance Officers.

Convalescents from infectious disease and contacts who have been excluded from school are not readmitted until the Head Teacher receives a clearance certificate issued from the Health Department. Children convalescent from infectious disease are excluded from school for varying periods following discharge from hospital, or, in the case of children who have been nursed at home, following disinfection of the home. The period of exclusion depends upon the disease from which the child has suffered.

A full survey of the health of the school-child is contained in the Annual Report on the work of the School Medical Service.

PART III.

Food Supply.

SUPERVISION OF FOOD SUPPLY.

During the year all food-preparing premises and premises engaged in the production or distribution of milk have been visited by the Veterinary Inspector. The Medical Officer of Health has visited all farms competing in the Clean Milk Competition, and has paid frequent visits to dairies, farms and food-preparing premises in the Borough.

Although the number of farms supplying Certified Milk to Blackburn remains the same as last year, 18 farms, an increase of three over last year, are supplying Grade "A" Milk to the Borough.

In 1927, 2,689 gallons of Grade "A" Milk, and 249 gallons of Certified Milk, were consumed each week by Blackburn residents.

The quantities for the year under review were 2,884 and 249 gallons of Grade "A" and Certified Milk respectively, an increase of 195 gallons of Grade "A" Milk per week. This increase is gratifying, and is evidence of the enlightenment of the public, who are becoming appreciative of the value of a clean milk, and of the dangers attendant upon a carelessly produced milk supply.

Grade "A" and Certified Milks owe their purity to the cleanliness of the premises, utensils, milkers and cows employed in their production. Apart from the process of cooling, they are subjected to no form of mechanical treatment at any stage of their production.

Pasteurised milk is milk which has been held at a temperature of 140° F. to 150° F. for thirty minutes, and then immediately cooled to 55° F., or lower. The object of pasteurisation is to destroy pathogenic organisms contained in the milk, and to reduce the number of non-pathogenic organisms, especially those concerned in souring the milk. It is true that an adequately pasteurised milk constitutes a clean and safe article of food, but it might be argued that the process of pasteurisation will not encourage the farmer who produces milk for this form of treatment to exercise adequate care in its production.

The aim of every farmer and of every local authority should be to ensure a milk supply which is clean at the source and which is independent of artificial methods as a guarantee of purity.

Ice Cream :

All ice-cream preparing premises have been visited during the year. Seven premises in which the manufacturing processes were unsatisfactory have been dealt with and the offending causes removed.

In past years difficulty has been experienced in the control of ice-cream vendors, particularly at the Bank Holiday and Fair periods, during which time the number of regular vendors (who are known and supervised by the Health Department), is augmented by vendors whose trade is of a casual nature.

All itinerant vendors of ice-cream are now required to obtain a vendor's license through the Markets Superintendent. The latter notifies the Health Department of all applications received by him, which renders it possible to keep all vendors under observation, and thus ensure the cleanliness and purity of this much-consumed commodity.

Shell-Fish :

Throughout the year shell-fish imported into the Borough has been found satisfactory.

REPORT BY THE VETERINARY INSPECTOR (MR. E. J. BURNDRED, M.R.C.V.S., D.V.H.)

MILK (SPECIAL DESIGNATIONS) ORDER, 1923.

Certified Milk. The number of farms holding the certificate of the Ministry of Health and supplying Certified Milk to Blackburn is three.

Two are local, the other is some distance away, and consequently the milk from the latter is not delivered the same day as it is produced.

The price of the milk ranges from 7½d. to 4d. per pint.

Grade "A" Milk. There are 18 farms in the district where Grade "A" milk is produced; five of these are in the Borough and 13 in the County area. In addition, there are 12 retailers of Grade "A" milk. The prices are 3½d. and 4d. per pint.

Pasteurised Milk. One dairy in the Borough is licensed for the pasteurisation of milk, and one dairy obtains a supply from a licensed establishment outside Blackburn.

A dairy equipped for the pasteurisation and bottling of milk is being erected in an adjoining township for a number of Co-operative Societies, including Blackburn, so that in the near future a much larger proportion of the milk consumed will probably be pasteurised. It is to be hoped that this pasteurised milk will displace ordinary milk rather than the other graded milks.

FARM AND DAIRY CATTLE INSPECTION.

During the year I paid 189 visits to farms, inspected 330 cowsheds, and examined the udders of 4,233 cows.

Three cows on two farms in the Borough were found to be affected with Tuberculosis of the udder. All three cows were slaughtered, and on post mortem examination were found to be affected with advanced Tuberculosis.

Seven cows showing clinical evidence of Tuberculosis were slaughtered, and one died.

They were all affected with Tuberculosis in an advanced degree.

Eleven cows were suffering from Mastitis, and during the affection the milk was not used for human food.

Bacteriological Examination of Milk for Tubercl Bacilli. During the year 300 samples of milk were collected and examined for the presence of tubercle bacilli.

The samples were made up as follows :—282 mixed samples were taken in the course of delivery ; 13 special samples were taken direct from individual cows showing some abnormality of the udder ; 5 control samples of the mixed milks of the cows in individual herds were also taken.

Of the 282 mixed samples taken, 3 contained tubercle bacilli, 259 were negative, and in 20 cases the experimental animal died before a definite diagnosis could be made.

Of the 13 special samples, 3 were positive and 10 were negative.

Of the 5 control samples, 1 was positive and 4 were negative.

Two of the three mixed milks were from farms outside the Borough, and one from a farm in the Borough. At one farm a cow affected with tuberculosis of the udder was discovered, but at the other two farms no affected cows were found, and subsequent control samples were negative.

The positive control sample came from a farm in the Borough, from which milk was being sent to a neighbouring city.

A subsequent re-inspection of the herd failed to find any cause for the tubercular infection, and subsequent control samples were negative.

The three special samples which were found to contain tubercle bacilli were taken from the three cows on two farms in the Borough already mentioned.

Mixed samples of milk supplied to the Royal Infirmary and the Corporation Hospital were taken periodically and examined for the presence of tubercle bacilli, and on each occasion were found to be free.

EXAMINATION OF MILK FOR DIRT.

During the year 446 samples of milk were taken and submitted to me and examined for the presence of dirt.

Ninety-three of these samples were taken from producer-retailers whose premises are within the Borough, and were classified as follows :—

Clean	47 or 50·5%
Fairly Clean	36 or 38·7%
Contaminated	10 or 10·7%

Two hundred and fifty-two samples were taken from producer-retailers whose premises are outside the Borough :—

Clean	126 or 50·0%
Fairly Clean	81 or 32·14%
Contaminated	40 or 15·9%
Grossly Contaminated	4 or 1·5%
Very Grossly Contaminated	1 or 0·4%

Ninety-five samples were taken from retailers who reside in the Borough, but who procure their supplies from producers whose premises are, for the most part, outside the Borough.

Clean	2 or 2·05%
Fairly Clean	65 or 68·4%
Contaminated	23 or 24·2%
Grossly Contaminated	5 or 5·26%

Two samples were taken from retailers who reside outside the Borough, and also obtain their supplies from farms outside the Borough :—

Fairly Clean	1 or 50·0%
Grossly Contaminated	1 or 50·0%

Four samples were taken from wholesale producers whose premises are outside the Borough. They were all contaminated.

The policy of improving conditions of production, both in methods and equipment has been continued, and taken generally, the producers in the Borough are doing their best.

During the year it was decided to fix a standard under the Milk and Dairies Order, 1926, for retail purveyors, other than producers, who have premises in the Borough.

The intention is that two rooms, separate from the house, shall be provided (1) for washing and storing the utensils, and (2) for storing milk.

In order that these rooms may be kept clean, concrete floors and cemented walls are suggested.

The washing-up room is provided with a sink, a rack made of galvanised pipes for the utensils, and provision for hot and cold water.

To ensure the proper cleansing of the utensils, dairymen are advised to instal a boiler, which may be heated by gas or oil, and which is so designed as to thoroughly steam all utensils. The boiler itself is similar to that used for domestic purposes, and is fitted with a cover, the centre portion of which may be removed when it is desired to steam the churns.

When all the larger vessels have been sterilised the lid of the boiler is removed and replaced by a steaming cabinet which contains two shelves capable of holding the cooler, sieve, smaller cans and bottles.

The milk room is fitted with a concrete trough, in which the large churns may stand, and a bracket for the cooler.

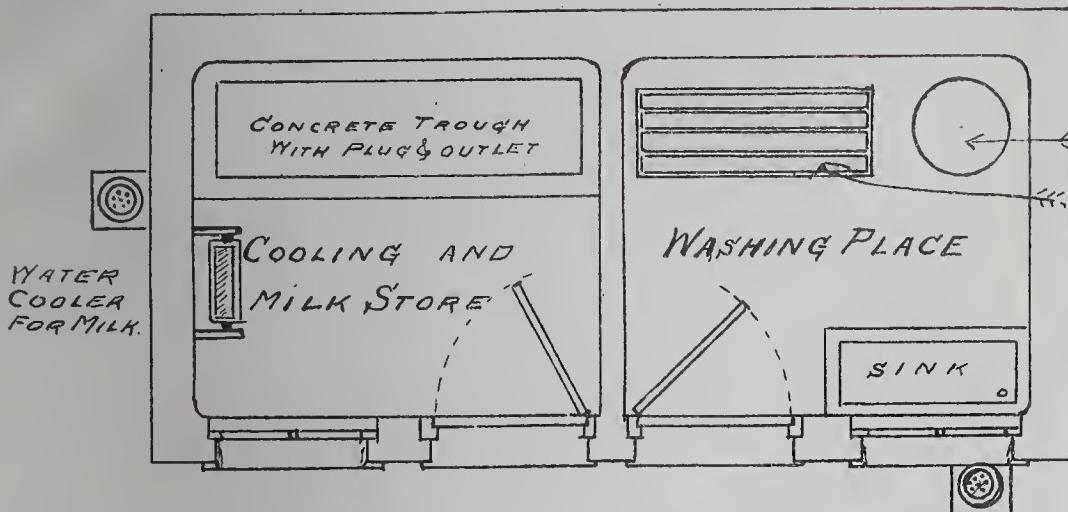
At the end of the year about 12 of the 50 retail purveyors had carried out the above suggestions.

MILK, DAIRIES, COWS AND COWSHED INSPECTION.

Clean Milk Competition. This was the seventh Clean Milk Competition, and, as in 1927, it extended over the whole year.

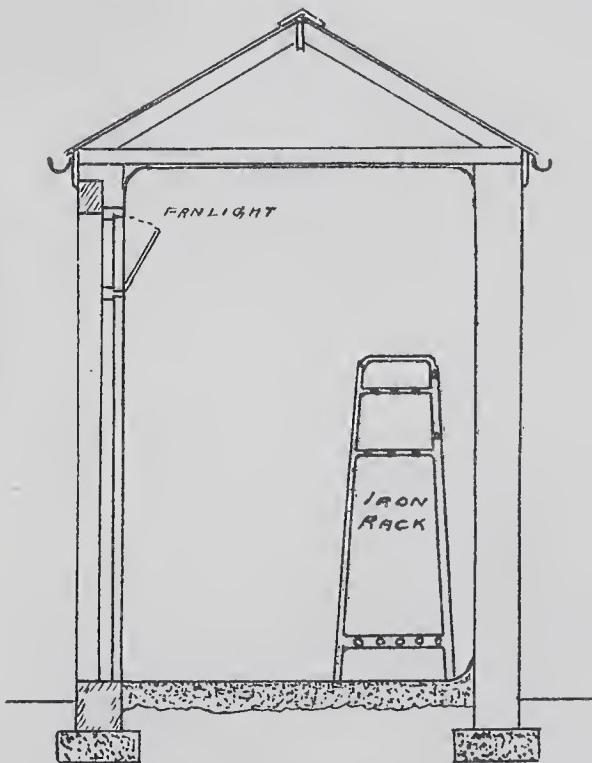
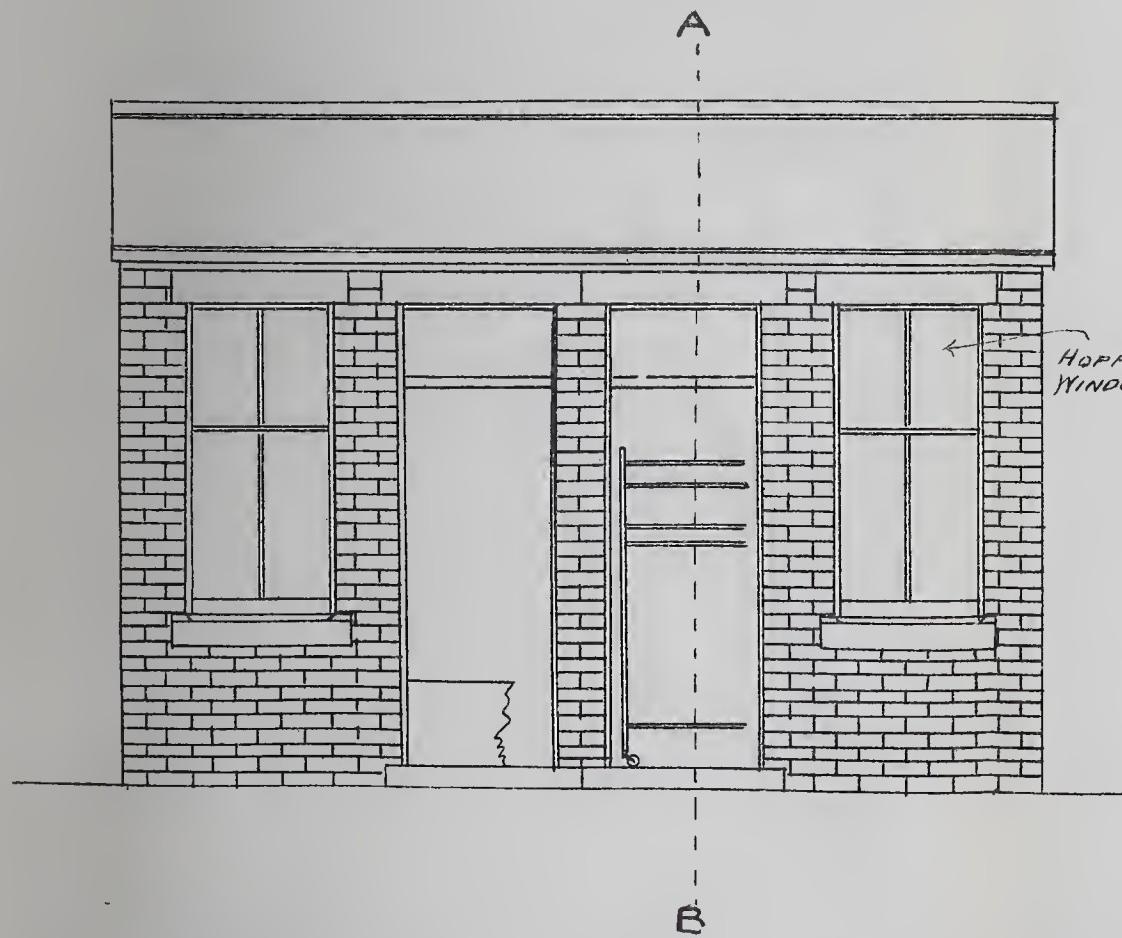
There were two classes. "A" open to all producers of Certified or Grade "A" milk whose milk was sold in Blackburn. "B" open to all other milk producers whose milk was sold in Blackburn.

SPECIMEN PLAN, ELEVATION, AND SECTION OF DAIRIES
BEING ERECTED BY RETAIL PURVEYORS OF MILK IN
THE COUNTY BOROUGH OF BLACKBURN



ALL CORNERS COVED
WALLS CEMENTED
WATER BOILER WITH STEAM CHEST OVER
IRON RACK FOR DRYING.

PERMANENT BUILDING: Brick or stone.
FLOOR: Smooth granite faced concrete with surface drainage to trapped gullies outside.
WALLS: Impervious smooth surface, all corners coved.
CEILING: Underboarded or otherwise rendered dust proof.
VENTILATION: Hoppered windows and air grates of ample dimensions. Openings protected by wire gauze.
WATER SUPPLY: Laid on to sink, cooler and trough.
COOLING: By water cooler and trough filled with water.
UTENSILS: Washed in sink and afterwards sterilised in steam chest over boiler. Iron rack for drying of churns kits and bottles.



SECTION THRO. A.B.

NO DIMENSIONS ARE GIVEN AS THE DAIRIES OF NECESSITY VARY IN SIZE AND ARRANGEMENT

The "Redmayne" Cup is held for one year by the winner in Class A, and, in addition, he receives a miniature of the cup and a gold medal, the latter usually being given to the producer's wife.

The "Porritt" Cup is held for one year by the winner in Class B, and in this class also the producer receives a miniature cup and a gold medal.

There was a slight improvement in the number of entrants, but the ordinary milk producers still do not take much interest.

There were 13 entries for Class A, and six for Class B.

DAIRIES, COWSHEDS AND MILKSHOPS.

Cowshed Floors Reconstructed or Repaired ...	...	...	4
Dairies Reconstructed ...	...	...	16

SECTION 80 BLACKBURN CORPORATION ACT, 1922.

FOOD PREPARING PREMISES.

This Section reads as follows :—

" Any premises ordinarily used, or proposed to be ordinarily used, for the preparation or manufacture of sausages, pressed, potted or preserved meat, fish or other food, intended for the purposes of sale, shall be registered by the owner or occupier thereof with the Corporation from time to time in such manner as they may direct, and no premises shall be used for the purposes aforesaid unless the same are so registered, and the Corporation shall have power to refuse registration of any premises where the conditions are unsuitable."

There are 47 premises registered under the above section, but in addition there are a large number of food preparing premises which are exempt from registration.

Two hundred and sixty-six visits were made to such premises. Generally they were found to comply with requirements.

In certain cases, the necessity for repairs was pointed out, and in other cases suggestions for improvements were made and in all cases improvements were effected.

THE BACTERIOLOGICAL EXAMINATION OF MILK.

Three hundred and nineteen samples were submitted to the Baeteriologist Public Health Laboratories, Liverpool. The following is a summary of his findings :—

Bacillus Coli Content :—

Not found in 1 cubic centimetre .. . . .	..	..	..	..	202
Found in 1 c.c. only .. . . .	..	..	..	..	57
.. 0·1 c.c. .. . . .	..	..	..	..	29
.. 0·01 c.c. .. . . .	..	..	..	..	8
.. 0·001 .. . . .	..	..	..	..	10
.. 0·0001 .. . . .	..	..	..	..	4
.. 0·00001 .. . . .	..	..	..	..	9

The presence of *Bacillus Coli*, or a member of its group, is an indication of manurial contamination of the milk. The above results show 63·3% clean ; 26·95% with manurial eontamination, and 9·7% grossly eontaminated.

Presence of Tubercle Bacilli.—Milk Samples Taken in Course of Delivery— Two hundred and eighty-two samples taken were submitted to inoculation tests for tubercle bacilli in the University Laboratory, Liverpool.

Of this number, three were found to contain the organisms.

This gives a perecentage of milks sold in Blackburn and found to contain living tubercle baeilli as 1·063%.

Tubercle baeilli were absent in 262 samples, whilst in 17 samples the guinea pig died before a result could be obtained.

FARMS VISITED.

	FARMS	COWSHEDS	Cows
January	5	11	160
February	26	47	592
March	30	53	620
April	11	20	201
May	16	28	337
June	11	18	180
July	3	6	224
August	14	26	281
September	9	15	152
October	10	17	188
November	22	36	481
December	32	53	817
	189	330	4233

BAKEHOUSES.

There are approximately 297 premises in the Borough where bread, biscuits or confectionery are made for sale. Included in this number there are 60 factories where power is employed for mixing purposes. In most of the factories electrical power is provided in self-contained mixing machines, which take up little space, and this has proved of such assistance that gradually the preference for hand-mixed confectionery is being broken down.

On many of the premises baking is done in the rooms used as sculleries by the family, and although these bakehouses are clean and well-kept, it would be preferable if the baking were carried out in an apartment specially prepared for it.

SALE OF FOOD AND DRUGS ACTS, 1875 TO 1927.

The Public Analyst is W. H. Roberts, Esq., M.Sc., F.I.C. Samples taken under the above Acts are submitted to him for examination at the Public Health Laboratory, Liverpool.

The number of samples examined during 1928 was 792, compared with 729 in 1927. Twenty-five, or 3·10%, of the total proved on examination to be adulterated, or not up to standard.

Five hundred samples of milk, 260 of which were informal, were taken during the year. Sixteen samples, or 3·2%, were reported not to conform with the standard prescribed by the Ministry of Agriculture. In 1928, 13 of the defective samples were found to be considerably below the legal standards. If an informal sample proves to be not genuine on analysis, a formal sample is purchased and submitted to the analyst.

Four formal samples presented marked deficiency, and the three vendors concerned were prosecuted. The total amount of fines inflicted was £5/8/0.

SAMPLES OF MILK FOUND ON ANALYSIS TO CONTAIN COW DUNG BY VOLUME PER 100,000 PARTS OF THE SAMPLE.

*6 samples, less than 1.

*2 samples contained 1.

*6 samples, less than 2.

* *Warning letter.*

TABLE 19.
SALE OF FOOD AND DRUGS ACTS.

	Samples Taken.		Samples Genuine.		Samples Adulterated.	
	Formal.	Inform'l	Formal.	Inform'l	Formal.	Inform'l
Milk	214	106	210	101	4	5
Graded Milk	26	154	26	147	-	7
Butter	14	11	14	11	-	-
Pepper	-	1	-	1	-	-
Coffee	4	5	4	5	-	-
Cocoa	4	15	4	15	-	-
Custard Powdor	3	4	3	4	-	-
Baking Powder	4	10	4	8	-	2
Margarine	12	13	12	13	-	-
Ham	3	7	3	7	-	-
Bacon	3	6	3	6	-	-
Condensed Full Cream Milk (Sweetened)	-	12	-	12	-	-
Condensed Machine Skimmed Milk (Sweetened)	-	19	-	19	-	-
Condensed Full Cream Milk (Unsweetened)	-	17	-	17	-	-
Sausages	1	5	-	5	1	-
Tinned Peaches	-	9	-	7	-	2
" Apricots	-	2	-	2	-	-
" Pears	-	6	-	4	-	2
" Prunes	-	2	-	2	-	-
Honey	-	1	-	1	-	-
Tea	1	14	1	14	-	-
Cream	5	11	5	11	-	-
Egg Powder	1	4	1	4	-	-
Lemon Curd	-	10	-	10	-	-
Tinned Pineapple	-	2	-	1	-	1
Grape Fruit Butter	-	1	-	1	-	-
Marmalade	-	1	-	1	-	-
Ice Cream	-	2	-	2	-	-
Tinned Strawberries	-	1	-	1	-	-
Cheese	-	8	-	8	-	-
Fruit Salad Butter	-	1	-	1	-	-
Jam	-	15	-	15	-	-
Tinned Lobster	-	1	-	-	-	1
" Salmon	-	2	-	2	-	-
Table Jelly	-	1	-	1	-	-
Pearl Barley	-	1	-	1	-	-
Corn Flour	-	1	-	1	-	-
Baked Beans (Tinned)	-	1	-	1	-	-
Rum	-	1	-	1	-	-
Lobster Paste	-	1	-	1	-	-
Bread and Butter	-	1	-	1	-	-
Tinned Loganberries	-	1	-	1	-	-
Rice	-	1	-	1	-	-
Lard	-	1	-	1	-	-
Self-Raising Flour	-	1	-	1	-	-
Beef Dripping	-	1	-	1	-	-
Veal, Ham and Egg Pie	-	1	-	1	-	-
Skimmed Milk	-	1	-	1	-	-
Sardinos	-	1	-	1	-	-
Tinned Plums	-	1	-	1	-	-
Fruit Salad	-	3	-	3	-	-
TOTALS	295	497	290	487	5	20

TABLE 20.

SALE OF FOOD AND DRUGS ACTS.—ACTION TAKEN IN REGARD TO ADULTERATED SAMPLES.

Articles Purchased.	Number Analyzed	Number Genuine	Number Adulterated	Sample Number of	Formal	Informal	Amount of Adulteration.		Action Taken.	
							Milk	Butter	Cream	Oil
Milk	500	484	16	154 Yes	..	..	13% deficient in Milk Fat	..	..	Fined 40/- and 8/- Analyst Fee.
				211 Yes	..	..	20%	..	..	Fined 40/- and 8/- Analyst Fee.
				221 ..	Yes	..	20%	..	..	A formal sample taken and found genuine.
				344 ..	Yes	..	Very slightly watered	..	..	Formal samples taken and found genuine.
				360 ..	Yes	..	Very slightly deficient in Milk Fat	..	..	Formal samples taken and found genuine.
				363 ..	Yes	..	7% deficient in Milk Fat	..	..	Formal samples taken and found genuine.
				379 ..	Yes	..	4%	..	..	"
				431 ..	Yes	..	8%	..	..	"
				454 ..	Yes	..	6%	..	..	"
				44 Yes	..	..	6%	..	..	Other samples taken and found genuine.
				61 Yes	..	..	8%	..	..	Fined 4/- and 8/- Analyst Fee.
				134 ..	Yes	..	34%	..	..	Other samples taken and found genuine.
				238 ..	Yes	..	8%	..	..	See formal sample 286.
				267 ..	Yes	..	11%	..	..	Formal samples taken and found genuine.
				286 Yes	..	..	16%	..	..	Proceedings not taken through error.
				352 ..	Yes	..	Very slightly watered	..	..	Other samples taken and found genuine.

TABLE 20—(Continued).

SALE OF FOOD AND DRUGS ACTS.—ACTION TAKEN IN REGARD TO ADULTERATED SAMPLES.

Articles Purchased.	Number Analyzed			Number Genuine			Number Adulterated			Sample Number			Formal			Informal			Amount of Adulteration.			Action Taken.			
	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
Tinned Pears	6	4	2	455	..	Yes	220 parts of tin per million	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Sold under a warranty.
" Pine-				7	..	Yes	19.5	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	Warning letter sent.	
Tinned Apple	2	1	1	5	..	Yes	160	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
" Lobster	1	..	1	138	..	Yes	200	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
Baking Powder	14	12	2	444	..	Yes	56% deficient in carbon dioxide	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Instructions as to the method of storing baking powder given. Sold under a warranty.
"	..			79	..	Yes	25%	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
Tinned Peaches	9	7	2	72	..	Yes	220 parts of tin per million	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Sold under a warranty. Warning letter.
" Sausages	..	6	5	1	..	Yes	159	Warning letter to wholesaler and retailer.

THE PUBLIC HEALTH (CONDENSED MILK) REGULATIONS,
1923 & 1927.

Forty-eight samples, all of which were properly labelled, were purchased under the above Regulations, and were found on analysis to be genuine.

These samples are included in Table 19, Sale of Food and Drugs Acts.

THE PUBLIC HEALTH (DRIED MILK) REGULATIONS, 1923 & 1927.

No action has been taken under the above Regulations.

THE PUBLIC HEALTH (PRESERVATIVES, &c., IN FOOD)
REGULATIONS, 1925 & 1927.

Samples submitted for analysis under the Sale of Food and Drugs Acts are examined for the presence of preservatives.

On one occasion a sample of sausages was found to contain 550 parts of Borates, calculated as Boracic Acid per million parts of sausage.

A warning letter was sent to the wholesaler and retailer of the article in question.

SUCCESSFUL PROSECUTIONS OTHER THAN UNDER THE SALE OF
FOOD AND DRUGS ACTS.

- (1) One milk vendor fined 20/- for refusing to give information as to the owner of the float.
- (2) Two milk vendors fined 5/- and 10/- respectively for not having their names and addresses inscribed on their vehicles.
- (3) Two milk vendors fined 5/- and 10/- respectively for selling milk without being registered and out of unlabelled cans.
- (4) One milk vendor fined 10/6 for selling milk from a motor car on which was not inscribed his name and address.

REPORT OF WORK DONE UNDER THE DISEASES OF ANIMALS ACTS AND ORDERS.

Foot and Mouth Disease. There were 138 outbreaks in Great Britain, necessitating the slaughter of 11,043 animals which were diseased or had been exposed to infection.

No outbreaks occurred in Blackburn.

Anthrax. There were 533 outbreaks in Great Britain, affecting 615 animals.

One case was discovered at a knacker yard in the Borough. The carcass of a cow which had died at a farm in the County area was brought to the Knacker yard for disposal, and whilst being cut up, suspicious signs were noticed. Immediate notification was made to me, and on microscopical examination of material I found anthrax bacilli. The carcase was removed to the Audley Destructor, where it was cremated. The premises, vehicle, and clothing of persons who had handled the carcase were disinfected, and the persons were kept under observation until all danger of infection was passed.

Routine microscopical examination of blood smears from carcases of animals arriving at the Abattoir in a dead or dying condition, was carried out throughout the year, but no cases were found.

Parasitic Mange. There were 276 outbreaks reported in Great Britain, involving 575 animals.

No cases occurred in Blackburn.

Glanders. One case occurred in Great Britain.

Sheep Scab. There were 669 outbreaks in Great Britain. No cases occurred in Blackburn, but, as a precautionary measure, 15 sheep which had been exposed to infection, were double dipped under supervision.

Swine Fever- 1,466 outbreaks were reported in Great Britain.

No cases occurred in Blackburn.

Tuberculosis. Three cases of Tuberculosis of the udder, three cases of Tuberculosis with cough, and three cases of Tuberculous emaciation were dealt with under the Tuberculosis Order of 1925. Two other cases of Tuberculous emaciation were not dealt with under the Order ; in one case the animal died before it could be dealt with, and in the other case the animal was in extremis when first seen. In all cases the disease was classed as Advanced Tuberculosis.

Cattle Market. The Market was closed to store stock during the whole of January, only animals for sale for immediate slaughter being allowed.

The Market was entirely closed on August 6th, opened for sale for immediate slaughter on August 13th, and fully opened, without restrictions, on August 20th, 1928. The approximate number of animals exposed for sale was :—

<i>Year.</i>	<i>Cattle.</i>	<i>Sheep.</i>	<i>Calves.</i>	<i>Pigs.</i>	<i>Horses</i>	<i>Asses.</i>
1928	6432	5655	2041	1045	19	...

<i>Year.</i>	<i>Cattle.</i>	<i>Sheep.</i>	<i>Calves.</i>	<i>Pigs.</i>	<i>Horses</i>	<i>Asses.</i>
1927	9960	9922	2675	1333	...	21
1926	8092	7410	2285	930	20	...
1925	7171	6962	2346	486	23	...
1924	5609	5608	3493	620	24	...
1923	7716	10026	3040	721	35	...
1922	4650	11289	2681	362	554	...
1921	4681	1913	2812	835	416	...
1920	9341	942	2258	530	365	...
1919	8345	17223	2188	163	269	...
1918	6424	23043	1832	111	126	...

E. J. BURNDRED,
Veterinary and Chief Meat Inspector.

TUBERCULOSIS ORDER OF 1925.

	CHRONIC COUGH WITH T.B.	T.B. EMACIATION	T.B. UDDER
January .. .	—	1	—
February .. .	—	—	—
March .. .	1	—	—
April .. .	—	—	1
May .. .	—	1	—
June .. .	—	1	—
July .. .	—	—	—
August .. .	1	—	—
September .. .	—	—	—
October .. .	—	—	1
November .. .	1	—	1
December .. .	—	—	—
	3	3	3

One T.B. emaciation was not taken under the Order, being in extremis when first seen. The owner was advised to slaughter, and post mortem examination revealed advanced tuberculosis.

One T.B. emaciation was reported but died before the case could be dealt with.

MEAT INSPECTION.

The number of animals slaughtered at the Public Abattoir was 94,827, this being a decrease of 3,580 compared with 1927, but an increase of 3,211 compared with 1926.

The large waste of food material, due to condemnation of diseased carcases, was in the main caused by Tuberculosis.

The number of susceptible animals (cattle, calves, pigs) affected with Tuberculosis during 1928 was 422, or 2·9% of those slaughtered.

Corresponding percentages were, in 1927, 2·079; 1926, 2·15; 1925, 1·83; 1924, 1·87; 1923, 1·64.

Of 851 cows slaughtered, 126, or 14·8%, were found to be affected with Tuberculosis in some degree.

Hcifers show a lower proportion affected, only 11 out of 751 slaughtered, or 1·46%.

Of 1,121 bulls slaughtered, 16, or 1·4% were affected.

Of 7,002 bullocks, only 31, or 0·44%, were affected.

Calves show a lower percentage still : of 2,012 slaughtered, only 4, or 0·19% were affected.

Of 7,499 pigs slaughtered, 234 were affected, or a percentage of 3·1%.

The number of carcases in which the disease was so advanced as to necessitate total condemnation was 111, compared with 107 in 1927 ; 107 in 1926 ; 69 in 1925 ; 85 in 1924 ; and 54 in 1923.

In 1928 75 carcases of cattle were totally condemned as being unfit for human food, and of these, 69 were affected with Tuberculosis.

Liver fluke, both in cattle and sheep, again showed itself as a national scourge.

It accounted for the condemnation of 6,042 livers, compared with 3,836 in 1927, and 2,335 in 1926.

In addition to the work at the Abattoirs, visits were regularly paid to the only private slaughterhouse in the Borough ; butchers and other meat shops, food preparing premises, wholesale and retail fish markets and meat market.

TABLE 21.

NUMBER OF ANIMALS SLAUGHTERED AT THE PUBLIC ABATTOIR.

1928.	Beasts	Sheep	Calves	Pigs	Goats	Total
January . . .	849	5857	91	591	..	7388
February . . .	825	5905	175	623	..	7528
March	1053	7015	204	634	..	8906
April	826	5459	204	475	..	6964
May	880	6951	84	411	..	8326
June	702	6118	96	314	..	7230
July	599	6141	87	278	..	7105
August	831	8433	183	411	..	9858
September . . .	741	6798	209	512	..	8260
October	834	6195	252	817	..	8098
November	1075	7672	285	1036	..	10068
December	510	3047	142	1397	..	5096
TOTAL	9725	75591	2012	7499	..	94827

NUMBER OF CARCASSES AND PORTIONS OF CARCASSES
BROUGHT TO THE ABATTOIR.

TABLE 22.

1928.	CARCASSES.			BEEF		
	Beef	Mutton	Pork	Fore Qrs.	Hind Qrs.	Buttocks
January . . .	9	24	56	1	1	...
February . . .	12	24	66	1	1	...
March . . .	15	...	66	...	...	...
April . . .	9	30	45	...	...	...
May . . .	...	38	...	...	...	...
June . . .	7	28	...	2	...	...
July . . .	8	24	16	...	...	...
August . . .	10	30	39	...	...	...
September . . .	7½	24	...	...	...	...
October . . .	7	12	96	1	1	...
November . . .	10	...	62	1	1	...
December . . .	10	24	185	...	...	...
TOTALS . . .	104½	258	631	6	4	1

	CASES OF		Lengths of Pork	Tins of Meat
	Kidneys	Pork		
January . . .	19	...	...	..
February . . .	24	...	...	...
March . . .	21	...	...	...
April . . .	16	...	...	...
May . . .	11	...	...	...
June . . .	15	...	...	...
July . . .	12	...	...	...
August . . .	4	...	...	...
September . . .	12	...	...	...
October . . .	25	6	...	...
November . . .	28	...	...	...
December . . .	20	20	...	...
TOTALS . . .	207	26	...	...

TABLE 23.

ORGANS AND PARTS OF CARCASSES EXAMINED, REJECTED AND DESTROYED, FOR DISEASES OTHER THAN TUBERCULOSIS.

Disease or Condition	Diaphragm	Tonsgues	Heads	Lungs	Hearts	Livers	Stomaches	Intestines	Kidneys	Udders	Tails	Lbs. of Meat
Fluke	6042	...	...	...	...	...	...
Cirrhosis	396	...	...	...	...	...	...
Angioma	50	...	...	...	...	...	...
Cysts	5	...	...	...	...	...	...	...	...
Unsound	95	49	...	30	2	...	...	...	...	1590½
Abscesses	2	...	...	17	10	...	...	...	...	...
Actinomycosis	4	...	...	...	...	...	...	...	...	...
Mammitis	105	...	...	5	...
Parasitic	41	...	...	...	...	6	...	...
Nephritis	24	...
Bruised	3	...	...	...	...	...	...	...
Congested	8	...	...	...	...	...	1986½
Pericarditis
Dropsical	1	...	...	...
Melanosis
Pleurisy
Total	—	—	101	98	8	6566	12	105	7	29	—	3577

TABLE 24.

DISEASED CARCASSES EXAMINED, REJECTED AND DESTROYED FOR DISEASES, ETC.,
OTHER THAN TUBERCULOSIS.

CARCASES.

BEEF.	MUTTON.	VEAL.	PORK.
DISEASE.	DISEASE.	DISEASE.	DISEASE.
No.	No.	No.	No.
Septicæmia	2 Asphyxia	12 Immature	28 Nephritis
Pneumonia	1 Edematous	39 Asphyxia	1 Rachitis
Conditions incidental to Parturition	1 Bruised	17 Jaundice	1 Edematous
Congested	1 Congested	61 Congested	7 Septicæmia
	2 Emaciated	2 Joint ill	37 Congested
	Arthritis	1 Septicæmia	2 Urticaria
	Parasitic	7 Bruised	2 Urticaria
	Nephritis	2 Edematous	1 Jaundice
	Unsound	9 Pyæmia	1 Peritonitis
	Lymph-Adenitis	1 Pyæmia	1 Lymph-Adenitis
	Pyæmia	1 Pyæmia	1 Septic Metritis
	Peritonitis	2	
			154
			6

TABLE 25.

TUBERCULOUS CARCASSES EXAMINED AND REJECTED.

1928		Cows	Heifers	Bulls	Bullocks	Calves	Sheep	Pigs	Totals	Rejected
		Examined	Rejected	Examined	Rejected	Examined	Rejected	Examined	Rejected	Rejected
January ..	..	10	3	..	2	..	..	..	21	3
February ..	..	12	4	..	1	..	..	..	52	9
March ..	..	16	8	2	1	5	1	..	13	13
April ..	..	8	1	..	1	3	1	..	14	3
May ..	..	8	4	1	1	4	1	..	21	2
June ..	..	11	3	..	..	2	..	..	10	2
July ..	..	11	4	..	..	1	..	..	12	3
August ..	..	6	1	3	1	5	..	..	23	3
September ..	..	8	4	1	..	2	..	..	14	2
October ..	..	10	6	1	..	2	5	..	34	11
November ..	..	15	8	2	1	1	1	..	23	4
December ..	..	11	2	..	..	1	..	..	27	7
TOTALS ..	..	126	48	11	5	16	4	31	8	422

TABLE 26.
TUBERCULOSIS IN THE ANIMALS SLAUGHTERED.

Kind of Animal.	Number Slaughtered.	Of which were Tuber- culous.	EXTENT OF THE TUBERCULAR PROCESS IN PARTIALLY REJECTED CARCASSES.											
			THORAX.				ABDOMEN.				Udders			
			Lungs	Hearts and Pericardium	Gloves	Membranes	Kidneys	Intestines	Uteri.	Bones	Testicles	Udders	Carcasses	
Cows	851	126	48	52	78	—	60	—	—	—	—	5
Heifers	751	11	5	3	6	—	3	—	—	—	—	230
Bulls	1121	16	4	4	12	—	4	—	—	—	—	230
Bullocks	7002	31	8	13	23	—	13	—	—	—	—	345
Calves	2012	4	4	—	—	—	—	—	—	—	—	410
Pigs	7499	234	42	192	192	—	—	—	—	—	—	—
TOTALS	19236	422	111	264	311	—	80	—	13	—	—	5
											13	—	—	3245

TABLE 27.

FISH, RABBITS, ETC., EXAMINED, REJECTED AND DESTROYED.

FISH															
Boxes	Bags	Lbs.	Tins of Fish	Tins of Crab	Shrimps	Rabbits	Tins of Meat	Tins of Tongue	Tins of Fruit	Pears	Potatoes	Crates of Cauliflower	Fruit Salad	Baskets Apricots	
338 ¹ / ₂	12	71	3	1	qts.	6	448	19	1	6	89	3	64	1	2

NUMBER OF VISITS TO INSPECT FOOD.

Fish Shops ..	..	..	..	..	..	..	..	..	..	..	..	..	..	952
Provision Shops ..	..	..	..	..	..	..	..	..	..	..	..	..	..	1009
Butchers' Shops ..	..	..	..	..	..	..	..	..	..	..	..	..	..	2245
Private Slaughterhouses ..	..	..	..	..	..	..	..	..	..	..	..	..	..	41
Meat Market ..	..	..	..	..	..	..	..	..	..	..	..	..	..	177
Fish Market ..	..	..	..	..	..	..	..	..	..	..	..	..	..	267
Railway Station ..	..	..	..	..	..	..	..	..	..	..	..	..	..	277
														4968

CARCASES, ETC., SENT FOR UTILIZATION.

			Tons.	Cwts.	Qrs.
January ..	..	..	3	15	2
February ..	..	..	4	5	2
March ..	..	..	6	3	0
April ..	..	..	2	11	0
May ..	..	..	3	11	0
June ..	..	..	2	16	0
July ..	..	..	2	13	3
August ..	..	..	3	19	2
September ..	..	..	2	6	2
October ..	..	..	4	6	2
November ..	..	..	6	15	2
December ..	..	..	3	8	0
TOTAL	..	..	46	11	3

PART IV.

Prevalence and Control
of
Infectious Disease.

TABLE 28.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1928.
Cases notified in whole District.

NOTIFIABLE DISEASE.	At Ages—Years.										Total cases notified in each Locality.											
	Cases notified in whole District.										Total cases notified in each Locality.											
	At All Ages										Total cases removed to Corporation Hospital											
	Under 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	10 to 15	15 to 20	20 to 35	35 to 45	45 to 55	55 to 65	65 and upward;	St. Andrew's	St. Luke's	St. Mark's	St. Thomas'	St. Matthew's	St. Mary's	Parak		
Small-pox...	10	—	—	—	—	—	1	2	4	—	—	—	—	2	—	—	—	—	—	—	—	
Cholera...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Diphtheria (including Membranous Croup)	1124	2	3	6	8	10	64	15	11	3	1	—	1	—	6	10	8	15	9	4	111	
Erysipelas...	42	1	—	—	—	—	—	—	—	—	—	—	—	—	4	11	14	8	10	13	13	
Scarlet Fever	...	...	...	...	...	...	9	11	57	29	3	3	5	11	5	1	1	5	3	3	7
Typhus Fever	...	...	...	...	...	...	—	—	—	—	4	1	—	—	—	3	4	3	3	9	104
Enteric Fever	...	...	...	...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Fever	...	...	...	...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Pyrexia	...	...	...	...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerebro-spinal Meningitis	...	...	...	...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ophthalmia Neonatorum	...	17	17	—	—	—	—	—	—	—	—	—	—	—	—	2	1	1	1	1	5	
Pulmonary Tuberculosis	M 52	—	—	—	—	—	—	1	1	7	19	5	14	3	2	3	3	7	8	2	35	
Other forms of Tuberculosis	F 54	—	1	1	—	—	—	1	4	—	7	26	11	3	2	5	5	2	3	4	36	
Poliomyelitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Encephalitis Lethargica	...	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	
Dysentery...	...	...	...	...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaria	...	...	...	...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pneumonia	222	8	12	7	2	4	32	8	34	28	31	24	20	12	16	24
*Diarrhoea	...	...	...	...	...	...	1	1	—	—	—	—	—	—	—	—	—	—	—	—	152
Chicken-pox	...	...	...	...	...	...	44	5	2	1	6	3	25	1	—	—	6	2	4	1	3
TOTALS ...	751	36	22	18	29	29	197	64	75	108	60	56	32	25	51	69	60	62	37	55	313	

* Notifiable from July 1st to October 31st only.

TABLE 29.

INFECTIOUS DISEASES.

AGE INCIDENCE OF CASES NOTIFIED.

TABLE 30.

Infectious Diseases.

CASE INCIDENCE PER 1000 OF THE POPULATION.

	St. Stephen's	Trinity:	St. Michael's	St. John's	St. Paul's	St. Peter's	St. Mary's	St. Thomas	St. Matthew's	St. Luke's	St. Mark's	St. Andrew's		
Scarlet Fever	3.46	0.91	1.57	2.81	1.01	1.03	0.45	0.73	1.08	0.92	0.64	0.40	0.87	0.85
Diphtheria ...	0.55	1.14	0.90	2.11	1.01	0.31	0.60	2.01	1.52	0.67	1.06	1.73	0.87	0.37
Erysipelas.....	0.18	0.34	0.45	0.42	0.44	0.31	0.13	0.18	0.54	0.25	0.74	0.40	0.29	...
Enteric Fever .....	...	...	...	...	...	...	...	...	0.10	...	...	...	...	...
Puerperal Fever .....	...	...	0.22	0.14	...	0.10	...	...	...	0.10	0.26	0.09	0.09	...
Puerperal Pyrexia	0.09	...	0.11	0.14	...	0.10	0.15	0.18	...	0.16	0.21	...	...	...
Ophthalmia Neonatorum	0.18	0.22	0.11	0.14	...	0.26	0.30	...	0.10	0.08	0.21	0.13	0.09	...
Acute Primary Pneumonia ..	1.47	3.53	1.46	1.68	1.01	1.76	1.50	1.46	2.28	1.00	1.70	2.27	1.55	2.27
Tuberculosis—Lungs	0.91	0.91	0.56	0.70	0.22	0.93	1.50	1.83	0.32	0.83	0.74	0.92	0.87	1.04
do. Other Forms	0.09	0.57	0.56	0.42	...	0.51	0.30	0.18	0.43	0.08	0.21	0.13	0.09	0.47
Encephalitis Lethargica.....	0.18	...	...	...	0.11	0.20	...	0.18	...	...	...	...	0.09	...
Diarrhoea .....	...	...	...	...	...	...	...	...	...	...	...	...	0.10	...

TABLE 31.

SHOWING NUMBER OF CASES OF INFECTIOUS DISEASES NOTIFIED FROM 1909 TO 1928.

DISEASE.	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Smallpox	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	5	10
Diphtheria (including Mem-branous Croup)	102	96	107	55	76	62	39	52	50	57	30	69	45	52	35	62	67	81	99	124
Erysipelas	...	94	90	77	87	90	97	69	66	40	52	38	59	47	54	52	45	39	44	66
Scarlet Fever	...	1013	795	343	116	268	704	60	153	96	150	136	181	211	231	216	70	304	218	125
Enteric Fever	...	69	46	49	26	31	31	44	14	13	3	5	2	5	3	3	3	2	9	2
Puerperal Fever	...	11	10	9	9	8	10	5	5	5	12	15	7	12	10	13	11	7	1	10
Puerperal Pyrexia
Typhus Fever
Cerebro-Spinal Meningitis	1	...	...	...	...	1	2	...	...	...	...	...	...	...	...
Poliomyelitis	4	1	...	...	1	...	1	2	...	1	1	1	1	1	1
Pulmonary Tuberculosis	217	230	212	213	154	131	176	124	88	150	145	176	150	169	132	111
Other forms of Tuberculosis	104	60	88	49	47	54	47	38	71	70	102	63	71	44	40
Ophthalmia Neonatorum	15	19	15	7	15	18	22	24	22	15	17	25	19	17
*Measles	1081	1938	1560	103	...	...	...	...	...	...	...
Encephalitis Lethargica	5	2	1	10	32	5	9	8	7
Dysentery	3	1	1	...	1	1	1	1	1
Malaria	61	18	4	2	1	1	1	1	...
Pneumonia	114	158	176	275	349	358	242	149	256
†Diarrhoea	31	1	2	4	21	12	1	1	222
‡Chicken-Pox	44	
TOTALS	...	1291	1038	585	514	808	1191	937	1592	2325	2083	689	654	782	865	974	816	959	750	751

* No longer notifiable.

† Notifiable from July 16th to September 15th, and for three months commencing December 19th.

‡ July 1st to October 31st.

TABLE 32.

NOTIFICATION OF INFECTIOUS DISEASES.

Disease	Incidence Rate per 1000 of Population										Death Rate per 1000 of Population						Housing Conditions						
	1928	1927	1926	1925	1924	1928	1927	1926	1925	1924	1928	1927	1926	1925	1924	1928	1927	1926	1925	1924	1928		
Total Deaths																							
Small Pox	10	0.07	0.04	0.07	0.00	0.00	0.00	0.00	0.00	0.00	1	9	6	6	6	14	147	57	16	100	88	1	
Scarlet Fever	121	104	96	1.00	1.75	2.41	0.54	0.00	0.008	0.008	28	28	69	50	50	14	147	57	16	100	88	1	
Diphtheria	124	111	140	0.99	0.79	0.65	0.52	0.48	0.11	0.09	1	1	1	1	1	2	39	26	2	39	26	..	
Enteric Fever	1	1	0.008	0.01	0.07	0.01	0.02	0.00	0.008	0.01	0.007	0.00	..	..	..	4	5	..	..	..	..	1
Puerperal Fever	19	5	1.07	0.07	0.5	0.08	0.10	0.07	0.008	0.02	0.03	0.02	..	..	..	10	1	..	..	..	..	..
Puerperal Pyrexia	9	..	0.07	0.15	0.08	..	..	..	0.00	0.00	..	..	..	..	..	7	4	..	..	..	..	..
Pneumonia	222	152	177	2.05	1.19	1.90	2.77	1.21	0.40	0.20	0.37	0.69	7	152	63	2193	61	3106	40	..	..	..
Influenza	42	7	0.33	0.53	0.35	0.30	0.34	0.00	0.05	0.008	0.00	0.007	1	27	14	2	46	18
Erysipelas	17	5	0.13	0.13	0.15	0.19	0.11	0.00	0.00	0.00	0.00	0.007	..	16	1	..	15	4	..	14	5
Ophthalmia Neonatorum	7	..	5.0	0.05	0.06	0.07	0.03	0.24	0.04	0.07	0.08	0.03	0.06	..	6	1	..	..	..	..	..	..
Encephalitis Lethargica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis—Pulmonary	52	35	36.0	41	0.40	0.55	0.64	0.59	0.28	0.40	0.43	0.38	0.41	6	33	13	3	36	11	6	50	13	
Males	54	28	46.0	43	0.49	0.50	0.68	0.56	0.37	0.37	0.42	0.32	0.25	..	41	13	3	48	10	8	47	8	
Females	106	63	82.0	84	0.89	1.06	1.33	1.16	0.65	0.77	0.85	0.70	0.66	6	74	26	6	84	21	14	97	21	
Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Non-Pulmonary:	19	1	11.0	15	0.21	0.16	0.29	0.24	0.08	0.05	0.06	0.08	0.07	..	14	5	..	21	6	..	19	2	
Males	17	1	10.0	13	0.10	0.18	0.26	0.24	0.08	0.05	0.01	0.07	0.13	..	8	9	1	10	2	..	21	1	
Females	36	2	21.0	28	0.32	0.35	0.55	0.48	0.16	0.11	0.07	0.15	0.20	..	22	14	1	31	8	1	40	3	
Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea	706	209	283.5	64	6.08	6.01	7.55	6.28	2.26	1.74	1.45	1.42	1.09	..	23511	172	25636	230	3447	164	30295	188	
Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

* 2 cases of Puerperal Fever from outside the Borough.

** 1 case of Puerperal Fever from outside the Borough.

TABLE 33.

NOTIFICATION OF INFECTIOUS DISEASES.—ROOM SPACE IN RELATION TO INFECTIOUS DISEASES INCIDENCE.

Disease.	1928			1927			1926			1925			1924																											
	Admitted to Remaining Hospital.	No. of persons per room	Admitted to Remaining Hospital.	No. of persons per room	Admitted to Remaining Hospital.	No. of persons per room	Admitted to Remaining Hospital.	No. of persons per room	Admitted to Remaining Hospital.	No. of persons per room	Admitted to Remaining Hospital.	No. of persons per room	Admitted to Remaining Hospital.	No. of persons per room	Total																									
Scarlet Fever	7	60	37	104	2	12	2	17	25	68	7	100	17	8	25	32	108	26	166	30	22	..	52	55	179	10	244	25	35	..	50	15	42	4	61	7	2	..	9	
Diphtheria	4	48	59	111	3	9	1	13	27	63	7	97	2	..	2	22	39	12	73	1	7	..	8	10	43	..	53	2	12	..	14	21	30	..	51	6	5	..	11	
Enteric Fever	1	..	1	..	..	..	1	2	..	3	..	..	..	..	5	3	8	..	1	..	1	..	2	..	..	..	..	1	..	1	..	..	1	..	..	..	..
TOTAL	11	109	96	216	6	21	3	30	53	133	14	200	19	8	..	27	54	152	41	247	31	30	..	61	65	224	10	299	27	47	..	64	37	73	4	114	14	7	..	21

SCARLET FEVER.

During 1928 121 cases were notified, representing an incidence of 0·96 per 1,000 of population. All these cases recovered.

One hundred and four, or 85·9%, of the cases notified, were removed to the Corporation Hospital.

In none of the cases where the home circumstances warranted, was any difficulty experienced in securing parental consent for removal to Hospital.

The heaviest incidence was noted amongst the 5—15 age group, where 86 cases, or 71·07% of the total notified, occurred.

The Diek test and immunisation of positive reactors have not been employed by the Health Department.

No "return" cases of scarlet-fever were discovered during the year.

TABLE 34.

SCARLET FEVER.

Year.	Cases Notified in Black- burn.	Attack Rate per 100,000 of popu- lation.	No. of Deaths.	Per- centage of Deaths to cases notified.	All Cases Admitted to Hospital.		
					No. Admitted	No. of Deaths.	Per- centage of Deaths to cases treated.
1903	339	260·2	13	3·83	232	6	2·58
1904	458	347·8	13	2·84	336	12	3·57
1905	1578	1188·7	76	4·81	1107	52	4·60
1906	849	635·5	33	3·88	625	27	4·30
1907	544	479·0	21	3·86	381	12	3·10
1908	595	439·8	20	3·36	434	18	4·10
1909	1013	744·1	53	5·23	760	39	5·10
1910	795	580·3	27	3·39	538	17	3·10
1911	343	248·9	10	2·91	241	5	2·00
1912	116	87·1	3	2·59	78	2	2·50
1913	268	200·8	1	0·37	199	2	1·01
1914	704	524·1	10	1·40	560	6	1·07
1915	460	341·5	6	1·30	360	5	1·40
1916	153	116·1	4	2·60	101	2	1·90
1917	96	76·0	2	2·08	68	1	1·50
1918	150	120·1	2	1·30	122	2	1·60
1919	136	103·6	2	1·47	105	2	1·90
1920	181	120·9	3	1·60	164	3	2·40
1921	211	163·0	1	0·40	162	1	0·60
1922	231	178·5	2	0·80	186	2	0·80
1923	216	167·4	0	0·00	181	0	0·00
1924	70	54·2	1	1·43	62	1	1·60
1925	304	239·5	3	0·98	274	3	1·10
1926	218	175·2	1	0·46	192	1	0·53
1927	125	100·4	1	0·80	116	1	0·86
1928	121	96·7	0	0·00	104	0	0·00

The above Table shows (a) That Scarlet Fever is much less prevalent than 20 years ago. (b) That it is a far less fatal disease than formerly. (c) That a higher proportion of cases are treated in hospital.

DIPHTHERIA.

One hundred and twenty-four cases of Diphtheria were notified during the year. Of these cases 13 terminated fatally, a mortality rate of 10·49 per 100 cases.

One hundred and eleven cases, or 89·5% of those notified, were removed to Hospital.

Seventy-nine cases, or 63·7% of the total, occurred in the 5—15 age group.

Twelve of the fatal cases which occurred had received no specific treatment for 4—12 days after the onset of the disease. Many cases were admitted to Hospital during the year where the parents had paid but little attention to the child's complaint of a sore throat, and had failed to call in a doctor until such time as the patient became profoundly ill. Sore throat, however slight, calls for a medical examination in order that prompt treatment may be secured if the case be one of diphtheria.

Energetic and early anti-toxin treatment is so successful that far fewer lives should be lost from this disease than is the case. The case mortality of diphtheria is influenced largely by the day of the disease on which anti-toxin therapy is instituted. The longer the delay in administering this form of treatment, the worse the prognosis, and *vice versa*.

I append a Table giving particulars of the fatal cases, in which it will be noted that only one case received anti-toxin on the first day of the disease. The case was that of a debilitated infant who was suffering from concomitant whooping-cough.

TABLE 35.

Sex.	Age (in years)	DAY OF DISEASE.			
		Medical Advice Sought.	Admitted to Hospital.	Antitoxin Given.	Death
Female	20	4th	4th	4th	4th
Male	8	10th	11th	11th	42nd
Female	6	5th	5th	5th	11th
Female	4	7th	7th	7th	44th
Male	2	5th	5th	5th	7th
Female	11	4th	4th	4th	45th
Female	5	4th	4th	4th	6th
Female	9	12th	13th	12th	20th
Female	3	4th	9th	9th	9th
Male	3	5th	5th	..	5th
Male	4	4th	4th	4th	4th
Female	1	1st	1st	1st	17th
Male	17	4th	4th	4th	4th

As regards the bacteriological diagnosis of diphtheria, it is true that a throat specimen found to contain organisms resembling *B. Diphtheriae* is of value in confirming a diagnosis.

On the other hand, a negative bacteriological report should never negative a diagnosis of diphtheria if the clinical signs favour a positive diagnosis. Even if diphtheria bacilli be present on the swab their growth in culture tubes may be overwhelmed by the luxuriant growth of accompanying organisms; again growth may be inhibited by the presence of antiseptics, or from many other causes.

In many cases negative microscopical reports are valueless in definitely disproving diphtheritic infection, and a case so suspicious as to warrant a swab being taken certainly justifies the prompt administration of antitoxin.

SUPPLY OF ANTITOXIN TO PRACTITIONERS.

A supply of antitoxin for the use of practitioners is kept at the Health Office. A further quantity is kept at the Police Office, to which practitioners apply when the Health Office is closed.

During the year 536,000 units of antitoxin have been given to practitioners in the area.

THE SCHICK TEST.

This test has not been employed by officers of the Health Department. The application of the test during epidemic periods to children whose parents consent is receiving consideration.

TABLE 36.

DIPHTHERIA.

Year.	Cases Notified in Black- burn.	Attack Rate per 100,000 of popu- lation.	No. of Deaths.	Per- centage of Deaths to cases notified.	All Cases Admitted to Hospital.		
					No. Admitted	No. of Deaths.	Per- centage of Deaths to cases treated.
1903	132	101·3	26	19·7	19	2	10·5
1904	60	45·5	11	18·3	11	2	41·1
1905	157	118·2	33	21·0	4	0	Nil.
1906	166	124·2	26	15·7	56	5	8·9
1907	150	111·5	17	11·3	63	5	7·9
1908	100	73·9	12	12·0	39	0	Nil.
1909	102	74·9	18	17·6	29	5	17·2
1910	96	70·0	22	22·9	42	9	21·4
1911	107	77·6	28	26·1	54	9	16·6
1912	55	41·3	9	16·4	36	5	13·9
1913	76	56·7	7	9·2	55	7	12·7
1914	62	46·1	7	11·3	37	2	5·4
1915	39	28·9	8	20·6	24	3	12·5
1916	52	39·5	9	17·3	32	3	9·3
1917	50	39·5	8	16·0	41	4	9·9
1918	57	45·6	11	19·3	56	4	7·1
1919	30	22·8	3	10·0	24	1	4·1
1920	69	49·3	10	14·5	59	7	13·2
1921	45	34·8	6	13·4	27	3	11·0
1922	52	40·1	7	13·4	38	6	13·0
1923	35	27·1	1	2·8	32	1	3·1
1924	62	48·0	3	4·8	48	2	4·1
1925	67	52·8	8	11·9	58	6	7·7
1926	81	65·0	8	9·9	73	8	9·3
1927	99	79·5	11	11·1	106	12	11·3
1928	124	99·1	14	11·2	111	7	6·3

The above Table shows (a) That the incidence of Diphtheria is increasing. (b) That on the whole the disease is less fatal than 20 years ago. (c) That a much larger number of cases seek hospital treatment. Last year saw the greatest number of admissions for this complaint since the hospital was opened. Some of these cases were out of the Borough cases and are not, therefore, included in the figure 124 in column 2.

SMALL POX.

I am indebted to Mr. G. G. Dickinson, the Vaccination Officer, for the figures necessary to compile the subjoined Table.

TABLE 37.

Month	Births	Successfully Vaccinated	Exempted	Died Unvaccin- ated	Vaccination Postponed	Removed not traced	Removed traced	Unaccount- ed for	Insuscept- ible
January .	150	51	74	20	1	1	1	2	- - - - -
February .	155	60	76	13	- - -	- - -	1	5	- - - - -
March ..	152	66	65	16	- - -	2	- - -	3	- - - - -
April ..	142	42	76	14	3	- - -	1	6	- - - - -
May ..	153	56	73	15	2	- - -	- - -	4	- - - - -
June ..	155	48	98	4	- - -	3	- - -	2	- - - - -
July ..	173	45	100	12	2	1	2	11	- - - - -
August ..	141	39	74	5	4	1	- - -	18	- - - - -
September .	139	34	74	- -	3	2	1	24	- - - - -
Oetober..	178	38	97	11	2	1	- - -	29	- - - - -
November .	136	25	61	12	1	1	- - -	35	- - - - -
December .	128	10	57	7	1	- - -	- - -	52	1
TOTALS .	1802	514	928	129	19	12	6	191	3

In the above Table it will be noted that of 1802 children born during the year but 514, or 28·5%, were successfully vaccinated.

In view of the high proportion of unvaccinated Blackburn residents, the Borough must be held fortunate in having escaped so lightly during the outbreaks of smallpox which have visited it during the year.

During the year 10 cases of smallpox, all of which were of a mild type, were notified. All the cases were removed to Finnington.

The first case was that of a male, aged 65 years, who had been successfully vaccinated in infancy. He sickened on the 7th June, the rash making its appearance three days later. The patient, who failed to appreciate the significance of the rash, carried on with his employment until the 13th June, on which date he attended the surgery of his panel doctor. At the request of the latter I examined the case, which proved to be one of smallpox.

Investigation failed to reveal the source of infection, but the available evidence pointed to the disease having been contracted about the Whitsuntide week-end, at which time the patient had visited several crowded beauty-spots outside the Borough.

Although the number of contacts was unduly large, no secondary cases occurred. All known contacts, unless recently vaccinated, were vaccinated or re-vaccinated, either by the public vaccinators, private practitioners, or by medical officers of the Health Department.

The second case was that of an unvaccinated Clitheroe youth, aged 16 years, admitted to a surgical ward of the Blackburn Royal Infirmary on the 7th September. Operation performed immediately after admission revealed an appendix abscess.

Four days after admission I was asked to examine the case, as smallpox was suspected.

No prodromal history was elicited, the early symptoms having been masked by the acute abdominal condition. The case was one of undoubted smallpox, and was removed forthwith to the Smallpox Hospital.

Through the co-operation of the Medical Officer of Health of Clitheroe, infection was traced to a "missed" case in that district.

In view of the circumstances of this case special administrative measures, which may be summarised as under, were adopted :—

- (i) All admissions and visiting to the infected unit were stopped for a period of 18 days, as from September 11th ;
- (ii) The whole staff, and such patients as were fit, were vaccinated.

No secondary cases occurred.

No further cases were notified in the Borough until December 14th. Between this date and December 31st eight notifications of smallpox were received, particulars of which are as under :—

Case I. A female, aged 44, living in the Witton district. This woman, who was vaccinated in infancy, sickened on the 8th December, and the rash appeared on the 11th. On the 14th December she visited the surgery of a practitioner in Witton. The latter, who suspected smallpox, requested me to see the case, which proved to be one of semi-confluent smallpox.

The patient stated that she had visited a family in the district, two members of which (Cases II and III of the series) "had spots on them."

Case II. An unvaccinated female, aged 15 years, who had "influenza, followed by spots" during the latter half of November. This case was one of undoubtedly smallpox.

Case III. Sister of Case II, an unvaccinated female, age 18 years, sickened on the 2nd December, the rash appearing a few days later.

The brother of Cases II and III, unvaccinated, aged five years, showed signs of recently healed smallpox. The suspicion that he had suffered from smallpox was strengthened by the fact that vaccination performed on December 14th, was unsuccessful.

Case IV. An unvaccinated girl aged 14 years, whose home was in the Grimshaw Park district. She sickened on the 11th December and the rash appeared on the 13th. At the request of the private practitioner in attendance I examined the case on the 14th December, and diagnosed it as smallpox.

Enquiries failed to connect this case with those already notified, and no source of infection was discovered.

Case V. A male, aged 64 years, vaccinated in infancy, resident in Lamack Road. He sickened on the 10th of December, and first noted the rash on the 13th.

At the request of the private practitioner in attendance I visited this case on the 15th December, and arranged for immediate removal to hospital.

Careful enquiries failed to connect this case with those previously notified. The son of this case, an unvaccinated youth, aged 18 years, displayed signs suggestive of healed smallpox. He was vaccinated with a known potent strain of lymph, with negative result.

Efforts to discover a source of infection amongst this youth's fellow-employés and friends were unsuccessful.

Case VI. An unvaccinated male, aged 17 years, resident in the Revidge district, who sickened on the 13th of December, the rash appearing on the 16th. I visited this case on the 18th, in consultation with the private practitioner in attendance, and diagnosed smallpox.

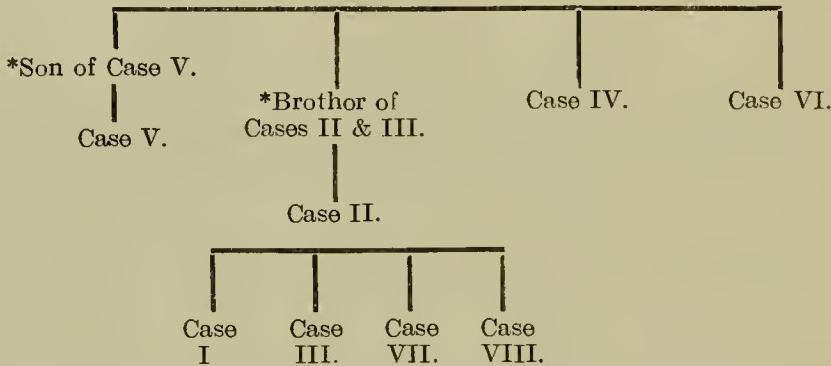
As far as could be ascertained this case had no connection with those previously notified.

Cases VII and VIII. Two sisters, unvaccinated, aged 17 and 12 years respectively, residing in the same house in the Blakey Moor district. Although direct contacts of Case II (by whom they were infected), the mother would not permit them to be vaccinated.

They both sickened on the 23rd December, the rash appearing four days later. I visited these cases at the request of the District Sanitary Inspector, on the night of December 27th, and found them to be smallpox.

I append a diagram illustrative of the relationship between these eight cases, from which it will be noted that the cases fall into four separate groups.

A SOURCE, OR SOURCES OF INFECTION UNTRACED.



*These two cases, although not notified, showed signs of recently healed Small-pox.

The available evidence pointed to a missed case or cases as being responsible for the outbreak.

ADMINISTRATIVE AND PREVENTIVE MEASURES.

The administrative procedure laid down in Memorandum 71A of the Ministry of Health was followed.

Observation of contacts was carried out for 18, and not for 16 days as advised in this Memorandum, since isolated cases have been reported in which a contact has not sickened until the 16th or 17th day after exposure to infection.

The most valuable preventive measure is to be found in the prompt vaccination or revaccination of contacts. There is no doubt that vaccination performed early in the incubation period will prevent or abort the disease provided that the vaccine eruption has time to reach maturity before the onset of smallpox.

PUBLIC HEALTH (SMALLPOX PREVENTION) REGULATIONS.

During the year 96 contacts were vaccinated by Medical Officers of the Department. Thirty-eight of the vaccinations were primary, and 58 were revaccinations.

ENTERIC FEVER.

One case of enteric fever was notified and removed to the Corporation Hospital.

PUBLIC HEALTH (INFECTIOUS DISEASES) REGULATIONS, 1927.

Two hundred and twenty cases of acute primary and acute influenza pneumonia were notified in 1928, compared with 254 in 1927. Thirty-four of these cases terminated fatally, which represents a case mortality of 16·6%, compared with 17·4% in 1927.

No notifications were received in respect of Malaria or Dysentery.

MEASLES.

This disease is not notifiable under the Infectious Diseases (Notification) Act.

Sixty-seven cases were brought to the notice of the Public Health Department by parents and teachers. The cases notified in previous years were : 1272 in 1927, 619 in 1926, 919 in 1925, 927 in 1924, 427 in 1923, and 1688 in 1922.

No deaths from Measles occurred during the year.

WHOOPING COUGH.

This disease is not notifiable. Such cases as are brought to the notice of the Health Department have been ascertained through the agency of teachers, school attendance officers, and the Maternity and Child Welfare Centres. The number of cases (330) was much higher than in 1927, when 88 cases were notified ; four deaths occurred from this cause, a case mortality rate of 1·2%, compared with 1·1% in 1927.

DIARRHCEA.

This disease is notifiable in Blackburn between July 1st and October 31st of each year, notification being required in respect of children under two years of age. Only one case was notified during the year.

Diarrhoea was certified as the cause of eight deaths, a decrease of 16 compared with the figure for 1927.

Four of the deaths were in respect of infants under one year of age, two occurred in the 2—5 age group, one in the 45—55 age group, and one in the over 65 age group.

The death rate per 1,000 births for the age group under one year was 2·31; the corresponding figure in 1927 was 2·05, and in 1926 5·2.

The Diarrhoea death rate for Blackburn per 1,000 births for children under two years of age was 3·4. This figure must be considered satisfactory as the corresponding figure for England and Wales was 7 and for the 107 large towns 9·6.

CHICKEN-POX.

In view of the occurrence of smallpox in the Borough the Infectious Disease (Notification) Act, 1889, was extended to include chicken-pox for three months as from July 16th; by further order of the Town Council, and with the approval of the Minister of Health, chicken-pox again became notifiable for a period of three months as from December 19th.

During these periods 57 cases were notified, 36 by doctors, and 21 by parents, school teachers, etc.

The total number of cases brought to the notice of the Health Department was 437.

ANTHRAX.

No cases of human anthrax occurred in Blackburn during the year.

CORPORATION HOSPITAL.

There are provided 120 beds at the Corporation Hospital. The allocation of the beds is as follows :—

Scarlet Fever	...	...	...	...	...	40	beds.
Diphtheria	...	...	...	...	...	16	"
Tuberculosis	...	...	...	...	...	34	"
Tubercular Children	...	...	...	...	...	20	"
Other Infectious Diseases	...	...	...	...	...	10	"

Accommodation for Tubercular children is provided at the Residential Open-Air Class, held in one of the original scarlet fever blocks. This block is situated in a part of the grounds remote from wards for the reception of patients suffering from infectious diseases.

During the year three beds were allotted for the reception and treatment of such cases of ophthalmia neonatorum as could not be nursed at home.

Improvements and innovations carried out during the year include the provision of a dining and recreation hut and the laying of a bowling green and clock-golf course for the use of patients from the Tuberculosis Ward. A croquet-lawn for the female tuberculosis patients is in course of construction, and will be completed in the near future. Adequate outdoor recreational facilities are essential in the treatment of tubercular cases, in order to distract attention from the nature of the malady, to relieve the tedium of a long sojourn in hospital, and to encourage open-air habits.

During the year 285 patients were admitted and discharged, a decrease of 46 as compared with the corresponding figure for 1927. At the end of the year there were 97 patients in hospital, as compared with 69 in 1927. The total number of deaths in the hospital was 33, representing a case mortality of 8·63 per 100 admissions.

Although the cases of diphtheria admitted to hospital were of a virulent type, particularly so at the end of the year, the case mortality, 10·93%, is lower than in 1927, when the corresponding figure was 12·17. During the last three months of the year the diphtheria accommodation was taxed heavily, at one period not only were beds allotted to other diseases occupied by diphtheria patients, but it was necessary to place extra beds and couches in the Diphtheria Ward.

TABLE 38.

Corporation Hospital.

		Patients remaining in Hospital on January 1st, 1928.		Patients admitted and Discharged in 1928.		Patients remaining in Hospital on December 31st, 1928		Analysis of all cases admitted in 1928 whether discharged or not during the year.				Cases removed expressed as a percentage of total notified 1928	
Total cover'd	Re- cover'd	Total	Died	Re- covered	Died	Total	covered	Re- covered	Died	Total	Mor- tality %	Av. No. of days in Hosp'l	
7	7	90	—	26	—	116	116	—	—	36·3	11·5	85·9	
8	7	109	1	14	19	128	114	14	10·93	38·0	13·3	89·5	
3	2	1	2	1	—	—	1	1	50·00	27·6	0·4	100·0	
—	—	—	2	—	—	—	2	2	—	0·00	33·0	0·2	
Measles	—	—	—	—	—	—	—	—	—	—	—	—	
Erysipelas..	1	—	1	7	7	—	7	7	—	0·00	11·0	0·2	
Tuberculosis	32	24	5	36	24	12	32	7	2	20·58	163·3	30·4	
Chicken Pox	—	—	—	3	3	—	1	—	4	—	0·00	18·5	
Other Diseases..	1	1	—	17	13	4	—	—	17	13	4	28·57	
Pre-Tubercular and Delicate Children..	16	10	—	—	12	12	—	—	—	—	—	24·3	
Puerperal Fever	—	—	—	5	5	—	—	5	5	—	0·00	210·4	
Puerperal Pyrexia ..	1	1	—	2	2	—	—	—	2	—	0·00	15·6	
TOTALS	69	52	8	285	254	31	97	59	2	382	313	33	
											8·63	72·2	
											75·7	—	

Accrington Borough, Rishton U.D.C., Oswaldtwistle U.D.C. and Blackburn R.D.C. have made arrangements with the Blackburn Corporation whereby cases of infectious disease occurring within their districts may be received into the Corporation Hospital.

MEASLES.

Two cases were admitted to the Hospital.

SCARLET FEVER.

One hundred and sixteen cases of Scarlet Fever were admitted to the Hospital during the year. One hundred and four were Blackburn cases, and 12 were cases from outside the Borough. There were no deaths from this disease amongst Hospital patients.

All toxic cases and those suffering from severe complications received specific anti-toxin as part of the treatment. The following are the general conclusions reached in the cases treated with anti-toxin :—

1. The rash disappears earlier.
2. Temperature falls more rapidly.
3. The rate of complications is lessened.
4. Toxicity disappears earlier in the treated than in the untreated case.

5. Serum sickness occurred in 23% of the cases. The reactions were (a) thermic ; (b) thermic with urticaria and oedema ; (c) general sickness.

In arriving at the above conclusions the variability factor of the disease was not ignored. It must be remembered that the severity of the disease may differ greatly from year to year.

The following Table gives the ages and sexes of the patients admitted :—

TABLE 39.

<i>Age.</i>	<i>Males.</i>	<i>Females.</i>	<i>Totals.</i>	<i>Deaths.</i>
0—1 years ..	1	—	1	—
1—2	2	—	2	—
2—3	2	1	3	—
3—4	—	7	7	—
4—5	3	3	6	—
5—10	36	16	52	—
10—15	14	18	32	—
15—25	5	4	9	—
25—35	1	1	2	—
35—45	1	1	2	—
45 and over ..	—	—	—	—
Total, 1928 ..	65	51	116	—
Total, 1927 ..	54	62	116	1
Total, 1926 ..	80	112	192	2
Total, 1925 ..	118	141	259	3
Total, 1924 ..	27	35	62	1

The following Table shows the percentage of Scarlet Fever removals in Wards, 1928 :—

TABLE 40.

<i>Ward.</i>						<i>1927</i>	<i>Percentage.</i>	<i>Percentage</i>
	..	..	..	..	..	100·0	71·4	100·0
St. Stephen's ..	..	..	..	..	..	87·5	92·8	50·0
Trinity ..	..	..	..	..	..	90·0	77·7	90·0
St. Michael's ..	..	..	..	..	..	80·0	80·0	80·0
St. John's ..	..	..	..	..	..	100·0	66·6	100·0
St. Silas's ..	..	..	..	..	..	100·0	71·4	100·0
St. Paul's ..	..	..	..	..	..	100·0	81·8	88·8
St. Peter's ..	..	..	..	..	..	77·7	77·7	57·1
St. Mary's ..	..	..	..	..	..	100·0	66·6	100·0
St. Matthew's ..	..	..	..	..	..	100·0	87·5	100·0
St. Thomas's ..	..	..	..	..	..	81·8	81·8	81·8
Park ..	..	..	..	..	..	66·6	75·0	80·0
St. Luke's ..	..	..	..	..	..	100·0	66·6	85·9
St. Mark's ..	..	..	..	..	..	77·7	77·7	57·1
St. Andrew's ..	..	..	..	..	..	66·6	66·6	87·5
TOTAL ..	..	..	..	..	..	85·9	85·9	80·0

Monthly Admissions of Scarlet Fever Cases to the Corporation Hospital during 1928 :—

TABLE 41.

1927.

Month.	Cases Notified.	Cases Removed.	Percentage of Removals.	Cases Notified.	Percentage of Removals.
January	5	5	100·0	10	70·0
February	9	7	77·7	9	66·6
March	5	4	80·0	11	100·0
April	12	11	91·6	12	91·6
May	6	6	100·0	16	32·5
June	2	2	100·0	14	78·6
July	5	5	100·0	10	80·0
August	3	1	33·3	12	83·3
September	11	11	100·0	10	90·0
October	17	15	88·2	9	77·7
November	20	15	75·0	9	77·7
December	26	22	84·7	3	100·0
TOTAL	121	104	85·9	125	80·0

DIPHTHERIA.

One hundred and twenty-eight cases, of which 17 were from outside the Borough, were admitted to Hospital during 1928. Five of these cases proved not to be diphtheria. The negative cases were four of Follicular Tonsillitis, and one of measles.

Twenty-six of the cases admitted were suffering from laryngeal diphtheria, and tracheotomy was performed on 14 of these cases. Nine of these cases recovered, whilst five, who were profoundly toxic, died.

The following complications and sequelæ occurred among the Diphtheria patients :—

Complete Palatal Paralysis	..	..	..	11
Ocular Paralysis ..	..	..	..	2
Adenitis ..	..	..	..	28
Tachycardia ..	..	..	..	10
Valvular Disease of Heart ..	..	..	..	2
Rheumatism ..	..	..	..	2
Rhinorrhœa ..	..	..	..	2
Otorrhœa ..	..	..	..	3
Measles ..	..	..	..	1
Disordered Action of the Heart ..	..	..	..	6

TABLE 42.

INCIDENCE OF DIPHTHERIA CASES ADMITTED TO HOSPITAL.

<i>Ages.</i>	<i>Males.</i>	<i>Females.</i>	<i>Totals.</i>	<i>Deaths.</i>
Under 1 year . . .	1	1	2	—
1—2 years . . .	3	3	6	2
2—3 years . . .	3	3	6	1
3—4 years . . .	5	6	11	1
4—5 years . . .	2	9	11	4
5—10 years . . .	28	29	57	2
10—15 years . . .	3	11	14	1
15—25 years . . .	9	11	20	2
25—35 years . . .	—	—	—	—
35 years and over . .	—	1	1	—
TOTALS, 1928 . . .	54	74	128	13
TOTALS, 1927 . . .	55	60	115	14
TOTALS, 1926 . . .	42	48	90	9
TOTALS, 1925 . . .	27	40	67	6

The following Table shows the percentage of Diphtheria removals in Wards, 1928 :—

TABLE 43.

<i>Ward.</i>	<i>Percentage.</i>					<i>1927</i>	<i>Percentage.</i>

St. Stephen's	50·0	50·0
Trinity	100·0	100·0
St. Michael's	88·8	100·0
St. John's	100·0	100·0
St. Silas's	55·5	66·6
St. Paul's	100·0	100·0
St. Peter's	100·0	100·0
St. Mary's	100·0	100·0
St. Matthew's	100·0	100·0
St. Thomas's	75·0	72·7
Park	100·0	100·0
St. Luke's	100·0	100·0
St. Mark's	88·8	100·0
St. Andrew's	50·0	100·0
TOTAL	89·5	99·0

TABLE 44.

The monthly incidence of Diphtheria in Blackburn was :—

Month.	Cases Notified.	Cases Removed.	Percentage of Removals.	1927.	
				Cases Notified.	Percentage of Removals.
January . . .	11	11	100·0	10	100·0
February . . .	7	7	100·0	12	100·0
March . . .	11	9	81·8	9	88·8
April . . .	10	9	90·0	5	100·0
May . . .	13	11	84·6	6	100·0
June . . .	9	9	100·0	11	100·0
July . . .	9	6	66·6	11	100·0
August . . .	4	4	100·0	8	100·0
September . . .	5	5	100·0	5	100·0
October . . .	9	8	88·8	12	100·0
November . . .	14	13	92·8	4	100·0
December . . .	22	19	86·3	6	100·0
TOTAL . . .	124	111	89·5	99	99·0

TABLE 45.

ENTERIC FEVER.

Age Period.	Males.	Females.	Total.	Deaths.
Under 10 years . . .	—	—	—	—
10—15 years . . .	—	—	—	—
15—25 years . . .	—	—	—	—
25—35 years . . .	—	—	—	—
35—45 years . . .	—	1	1	—
45 and upwards . . .	—	1	1	1
TOTAL . . .	—	2	2	1

OTHER DISEASES.

TABLE 46.

AGE PERIODS.

Disease.	0—1		1—2		2—5		5—15		15—25		25—35		35—45		45 & up		Total	Deaths
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
Encephalitis																		
Lethargica	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chickenpox	—	—	—	—	—	—	1	2	—	1	—	—	—	—	—	4
Puerperal Fever	..	—	—	—	—	—	—	—	—	—	2	—	3	—	—	—	—	5
Puerperal Pyrexia	..	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	2
Erysipelas	1	—	—	—	1	—	—	1	—	2	—	—	—	1	1	7
Pneumonia	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Ophthalmmia																		
Neonatorum	..	5	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6
Measles	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	2
Marasmus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Whooping Cough	..	1	2	—	—	—	1	—	—	—	—	—	—	—	—	—	—	4
Meningitis	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	2
No Disease	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Other Diseases	..	—	—	—	—	—	—	—	—	3	—	1	—	—	—	—	—	4
	9	4	—	—	2	1	2	6	—	6	1	5	—	—	1	1	38	4

Both cases of Meningitis were comatose on admission.

The case of Whooping Cough was also suffering from Marasmus, and died 36 hours after admission.

A baby was admitted with its mother, and died six hours after admission, from prematurity.

TABLE 47.

OUT OF BOROUGH CASES.

Disease.	Males.	Females.	Total.	Deaths.
Scarlet Fever..	9	3	12	—
Diphtheria ..	12	5	17	5
Puerperal Pyrexia ..	—	2	2	—
Enteric Fever ..	—	1	1	1
Erysipelas ..	1	—	1	—
Ophthalmmia Neonatorum	2	—	2	—
Meningitis ..	1	1	2	2
Other Diseases ..	—	1	1	—
TOTAL ..	25	13	38	8

TABLE 48.

ADMISSIONS FROM THE BLACKBURN ROYAL INFIRMARY.

<i>Disease.</i>	<i>Male.</i>	<i>Female</i>	<i>Total</i>	<i>Deaths</i>	<i>Remarks</i>
Enteric Fever	—	2	2	—	
Whooping Cough	1	1	2	—	
Chicken Pox	1	—	1	—	
Erysipelas	1	—	1	—	
TOTAL	3	3	6	—	

ADMISSIONS FROM QUEEN'S PARK HOSPITAL.

<i>Disease</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>Deaths</i>	<i>Remarks</i>
Scarlet Fever	1	2	3	—	
Diphtheria	1	—	1	1	
Chicken Pox	1	—	1	—	
TOTAL	3	2	5	1	

ADMISSIONS FROM THE COTTAGE HOMES.

<i>Disease</i>	<i>Males</i>	<i>Females</i>	<i>Total</i>	<i>Deaths</i>	<i>Remarks</i>
Diphtheria	1	—	1	—	Not Diphtheria—Tonsillitis.
TOTAL	1	—	1	—	

Cases from the Blackburn and East Lancashire Royal Infirmary and Queen's Park Hospital are included in the Out-of-the-Borough Table, if the cases sent were not residents of Blackburn.

BACTERIOLOGICAL EXAMINATIONS.

I --AT THE CORPORATION HOSPITAL.

TABLE 49.

<i>Examination and Material.</i>	<i>Positive</i>	<i>Negative</i>	<i>Total</i>	<i>Total</i>
For Diphtheria Bacilli :—	1928	1928	1928	1927
<i>Swabs</i> —				
Private Practitioners	146	...	256	...
Hospital	163	...	192	...
			355	...
			253	
For Tubercle Bacilli :—				
<i>Sputum</i> —				
Private Practitioners	51	...	178	...
Hospital	274	...	95	...
Tuberculosis Dispensary ...	75	...	114	...
			189	...
			190	
<i>Pus</i> —				
Hospital	0	...	2	...
			2	...
			0	
For Ringworm :—				
Private Practitioners	1	...	9	...
School Medical Service ...	148	...	401	...
			549	...
			663	
Examination of Urine (<i>Pus, etc.</i>) :—				
Private Practitioners	1	...	8	...
Hospital	187	...	322	...
Tuberculosis Dispensary ...	12	...	31	...
			43	...
			11	
Pleural Fluid	0	...	1	...
			1	...
			0	
Totals	1058	...	1609	...
	—		—	
			2667	...
			2463	—

PART V.

Prevalence and Control
of
Tuberculosis.

TUBERCULOSIS.

INCIDENCE AND MORTALITY.

During the year 142 cases of Tuberculosis, 106 Pulmonary and 36 Non-Pulmonary, were notified. In 1927 the notifications numbered 151 ; in 1926, 176 ; in 1925, 240 ; in 1924, 150 : in 1923, 176 ; and in 1922, 145. The notification of Tuberculosis in the area has been fairly satisfactory, and there have been no cases of wilful negleat or refusal to notify.

The number of deaths in 1928 from all forms of Tuberculosis was 103 ; Pulmonary Tuberculosis caused 82 deaths, and Non-Pulmonary Tuberculosis 21. Seventeen, or 16·5%, of the deaths from Tuberculosis were in respect of cases which had not been notified during life.

RECORDS OF PREVIOUS YEARS.

<i>Deaths from Tuberculosis</i>	1928	1927	1926	1925	1924	1923	1922
Pulmonary	82	96	106	90	85	93	96
Non-Pulmonary	21	14	10	20	26	31	26

The number of deaths from all forms of Tuberculosis is equivalent to a rate of 0·82 deaths per 1,000 living.

MORTALITY RATE PER 1,000 LIVING COMPARED WITH THAT OF ENGLAND AND WALES.

	1928	1927	1926	1925	1924	1923	1922	1921	1920	1919
Blackburn...	0·82	0·88	0·93	0·86	0·86	0·96	0·81	0·78	0·81	1·13
England & Wales ...	—	0·97	0·96	1·04	1·06	1·03	1·12	1·13	1·13	1·69

Perusal of the above Table shows that the death rate from all forms of Tuberculosis in Blackburn compares favourably with the corresponding rate for England and Wales. Since 1919, however, there has been a decline in the England and Wales rate, whereas that of Blackburn has remained practically stationary since 1920.

Of the cases notified during the year 44 died, 40 of the deaths being from Pulmonary, and four from Non-Pulmonary disease.

The appended Table gives the age-groups of the cases notified and of the deaths for the year 1928.

TABLE 50.

Age Periods.	New Cases				Deaths.			
	Pulmonary		Non-Pulmonary.		Pulmonary.		Non-Pulmonary.	
	M.	F.	M.	F.	M.	F.	M.	F.
Under one year	—	—	1	—	—	—	1	—
1—5 years	—	1	5	2	—	—	2	1
5—10	1	4	3	6	—	1	1	1
10—15	1	—	3	3	—	—	—	1
15—20	7	7	4	2	5	9	—	—
20—25	8	12	—	1	4	7	1	1
25—35	11	14	2	1	6	16	3	2
35—45	5	11	1	—	7	8	1	1
45—55	14	3	—	2	8	3	1	1
55—65	3	2	—	—	6	2	1	1
65 and upwards .. .	2	—	—	—	—	—	—	1
Totals	52	54	19	17	36	46	11	10

The number of cases notified during the year is practically the same for either sex, whereas a greater number of deaths has taken place amongst Females than amongst Males.

Of cases notified during the year, the attack rate corresponds, in the case of males, to 1·2 per 1,000 males, and of females, to 1·04 per 1,000 females.

THE TUBERCULOSIS SCHEME.

The Tuberculosis Dispensary forms a most important link in the Anti-Tuberculosis Scheme, through which close touch is maintained with notified cases, with Sanatoria and with practitioners in the area. The Dispensary acts as a clearing house and inspection centre and through it pass all sufferers to be dealt with under the Corporation Scheme.

Sessions are held at Duke Street Dispensary on Monday, Tuesday, Thursday and Friday afternoons, from 2-0 to 5-0 p.m., and on Tuesday evening, from 7-0 to 9-0. The latter session is for those whose occupation prevents attendance at the afternoon consultations. The Clinical Tuberculosis Officer, assisted by the Tuberculosis Nurse and Clerk, attends each session.

During the year attendances at the Dispensary numbered 2,148, compared with 2,433 in 1927.

Practically all the insured patients are referred to their panel doctors for domiciliary treatment, but each quarter the practitioners are requested to send their patients to the Dispensary, or to furnish the Administrative Tuberculosis Officer with a progress report.

The Tuberculosis Officer is available for consultations with practitioners in the area, and during the year he has paid 189 visits to the homes of patients.

The Tuberculosis Nurse visits the homes of all notified cases and advises all contacts to present themselves at the Dispensary for medical examination in order that tuberculosis, if present, may be diagnosed in the early and curable stage. It is regrettable that only a small proportion of contacts avail themselves of this opportunity. During the year 93 contacts were examined, of whom two were found to be suffering from Tuberculosis, and 10 whose condition was suggestive of Tuberculosis were kept under observation. Contacts of school age, to the number of 134, were examined by the School Medical Inspector.

One of the most important duties of the Tuberculosis Nurse is to supervise the arrangements for home isolation of patients under domiciliary treatment. House visitation and advice by the nurse is of the utmost importance, if infection of other members of the household is to be avoided. Unfortunately the housing conditions of many of the cases are such as render satisfactory isolation a matter of great difficulty.

The appended Table, which relates to persons who were at home during the last quarter of 1928, demonstrates the difficulty experienced in securing isolation of this type of case :—

TABLE 51.

			On First Visit.	After- wards.
No. who occupy a separate bedroom .. .. ..	..	130	180	
No. who occupy a separate parlour alone .. .. ..	..	24	24	
No. who occupied a kitchen alone .. .. ..	..	20	20	
No. who occupied a shelter in yard .. .. ..	..	...	..
No. who occupied a separate bed in a room occupied by :—				
One other person .. .. .. ..	..	22	22	
Two other persons .. .. .. ..	..	22	2	
Three other persons .. .. .. ..	..	4	8	
Many other persons (Common Lodging House, &c.) .. ..	..	...	...
No. who occupied a bed in common with :—				
One other person .. .. .. ..	..	18	7	
Two other persons .. .. .. ..	..	23	9	
Three other persons .. .. .. ..	..	9	4	
Two beds in a room :—				
Two persons in each bed .. .. .. ..	..	54	50	
Three persons in each bed .. .. .. ..	..	...	...
TOTAL	.. .. .. ..	326	326	

During the year 3,168 home visits were made by the Tuberculosis Nurse, of which 517 were in respect of Ex-Service men.

On the occasion of his first visit to the Dispensary the patient undergoes a thorough Clinical examination, and is subsequently X-rayed by the Tuberculosis Officer, who is thus able to correlate his clinical and X-ray findings.

The appended table gives particulars of the X-ray examinations carried out during the year :—

	Private Practitioner	Tuberculosis Officer
LUNGS :		
Films	22	172
Screenings	16	181
BONES AND JOINTS :		
Films	17	20
Screenings	14	6
	69	379

If the patient is expectorating, the sputum is examined microscopically by the Tuberculosis Officer, who made 225 examinations for private practitioners, and 190 in respect of patients attending the Dispensary.

By arrangement with the District Nursing Association, the Corporation provides home nursing for selected cases of patients under domiciliary treatment. During the year members of the District Nursing Staff paid 1,225 visits under this arrangement.

THE TREATMENT OF TUBERCULOSIS.

At the beginning of 1928 there were 487 Pulmonary and 270 Non-Pulmonary cases on the Dispensary Register.

During the year 117 Pulmonary and 36 Non-Pulmonary cases were added to the Register, consequently 604 Pulmonary, and 306 Non-Pulmonary cases were dealt with during the year. At the end of the year there were 442 Pulmonary, and 249 Non-Pulmonary cases on the Register, 219 names having been removed in the course of the year by reason of cure (11), died of Tuberculosis (83), lost sight of (99), died of non-tubercular disease (12), and removed to other towns (14).

Of cases on the Register on December 31st, 1928, 63 were receiving no form of treatment. The majority of these were following their ordinary occupations.

Blaeburn patients are admitted either to the Sanatorium Block at the Corporation Hospital, or to Meathop Sanatorium, Grange-over-Sands, where the Corporation reserves nine beds. The more advanced cases are received into the Corporation Hospital, the early cases, or those which have improved under treatment at the Corporation Hospital, are drafted to Meathop.

At the beginning of the year 12 males, 14 females, and two children were in-patient in the Sanatorium block ; during the year 31 males, 20 females, and five children were admitted ; on December 31st, 1928, 16 males, 7 females, and 3 children were still undergoing treatment. In the course of the year 15 males, 13 females, and 2 children were discharged.

The Residential Open-Air School in the Corporation Hospital grounds forms part of the scheme for the treatment of Tuberculosis in children of school-age. At the commencement of the year 16 children were in residence ; in the course of the year 25 children were admitted, and at the end of the year 19 children remained in the school.

The appended Table shows the condition of patients on discharge from the Sanatorium Block and Residential School :—

	<i>Disease</i>		<i>Mueh</i>			<i>No Change</i>	<i>Dead</i>
	<i>Quiescent</i>	<i>Improved</i>	<i>... Improved</i>	<i>No Change</i>			
Males ...	...	2	15	...	4	...	8
Females ...	...	1	14	...	3	...	8
Children ...	...	—	3	...	—	...	—
	—	—	—	—	—	—	—
	3	...	32	...	7	...	16
	—	—	—	—	—	—	—

At the commencement of the year 5 males and 4 females were in-patients at Meathop Sanatorium, and during 1928 12 males and 9 females were admitted. At the end of the year 5 males and 4 females remained at Meathop. The appended Table shows the condition of patients on discharge from Meathop.

	<i>Disease</i>		<i>Mueh</i>			<i>No Change</i>	<i>Dead</i>
	<i>Quiescent</i>	<i>Improved</i>	<i>... Improved</i>	<i>No Change</i>			
Males ...	...	5	4	...	6	...	1
Females ...	...	3	1	...	—	...	1
	—	—	—	—	—	—	—
	8	...	5	...	6	...	2
	—	—	—	—	—	—	—

NON-PULMONARY TUBERCULOSIS.

During the year 21 deaths were certified to be due to Non-Pulmonary Tuberculosis, compared with 14 in 1927; 10 in 1926; 24 in 1925; 26 in 1924; 31 in 1923; and 26 in 1922. The deaths were due to:—

						<i>Male.</i>	<i>Female.</i>
Tuberculous Meningitis	..	..	..	..	..	3	3
Tuberculous Peritonitis	..	.	..	..	..	5	5
Tubercular Laryngitis	..	..	..	..	..	1	0
Tuberculous Sinus of Neck	..	..	..	..	..	1	0
Bone and Joint Tuberculosis	..	..	..	..	..	0	2
Tabes Mesenterica	..	..	..	..	..	1	0

Thirty-six cases of Non-Pulmonary Tuberculosis were notified. The diagnoses were:—

						<i>Male.</i>	<i>Female.</i>
Tuberculous Glands of Neck	..	..	..	..	..	4	4
Abdominal Tuberculosis	..	..	..	..	..	6	10
Meningitis	..	..	..	..	..	0	2
Spinal Caries	..	..	..	..	..	4	1
Tuberculous Joint Disease	..	..	..	..	..	2	0
Tuberculous Bone Disease	..	..	..	..	..	1	0
Inguinal Glands	..	..	..	..	..	1	0
Sinus of Neck	..	..	..	..	..	1	0

BONE AND JOINT TUBERCULOSIS.

Sixteen cases of Bone or Joint Tuberculosis were examined by Dr. Briggs at the Special Orthopaedic Clinic.

DENTAL TREATMENT OF TUBERCULOSIS PATIENTS.

The following Table gives details of Dental work carried out as part of the Tuberculosis Scheme:—

The School Dentists carried out the following work in 1928:—

Number of Patients	..	..	..	..	..	23
Permanent Teeth extracted	..	..	..	..	..	20
Temporary Teeth extracted	..	..	..	..	..	12
Scaling and Polishing	..	..	..	..	..	2
Number of Sessions held	..	..	..	..	..	14

The following treatment was carried out at Meathop Sanatorium by the Dental Surgeon attached to that Institution. The cost of this treatment was borne by the Health Committee, but in some cases a part of the expense was refunded by the patients :—

Number of Patients Treated	5
Extractions	10
Dentures :—	
Repaired	1
Sealing	1

ULTRA-VIOLET LIGHT TREATMENT.

Particulars of the Ultra-Violet Light Treatment of Tuberculosis patients will be found in Tables 77 to 79.

PUBLIC HEALTH (PREVENTION OF TUBERCULOSIS) REGULATIONS, 1925.

It was not necessary to take any action during the year under the above regulations relating to tuberculous employees in the milk trade.

PUBLIC HEALTH ACT, 1925, SECTION 62.

A case occurred of a female suffering from pulmonary tuberculosis in an infectious state whose home conditions were such that proper precautions to prevent the spread of infection were impossible.

The patient resided in a house occupied by eight other members of her family, aged 46, 45, 20, 17, 15, 13, 7 and 5 years respectively.

The premises contained two bedrooms, a scullery and a kitchen-living-room ; the patient, who was bed-ridden, occupied a bed in the latter room, which was used for cooking and general domestic purposes.

As repeated efforts to induce the patient to accept sanatorium treatment were unavailing, the circumstances were reported to the Local Authority, who resolved that application be made to a Court of Summary Jurisdiction for a removal order under Section 62 of the Public Health Act, 1925.

On receiving informal notice of the resolution of the Local Authority the patient accepted the offer of institutional treatment, and was removed voluntarily.

TABLE 52.
Public Health (Tuberculosis) Regulations, 1912.
SUMMARY OF NOTIFICATIONS.

Age Periods.	Notifications on Form A.										Notifications on Form B				Number of Notifications on Form C.		
	Number of Primary Notifications					Total Primary Notifications					Total Notifications on Form A.		Total Notifications on Form B.		Number of Notifications on Form C.		
	0 to 1	1 to 2	2 to 20	21 to 35	36 to 45	46 to 55	56 to 65	66 and upwards	Total Primary Notifications	Under 5	5 to 10	10 to 15	Total Primary Notifications	Poor Law Institutions	Sanatoriums.		
Pulmonary Males	...	...	1	1	7	8	11	5	14	3	2	52	53	...	...	16	49
" Females...	...	1	2	...	7	12	14	11	3	2	...	52	54	...	2	5	36
Non-Pulmonary Males	1	5	2	2	4	...	2	1	...	...	...	17	18	...	1	2	10
" " Females	..	2	5	3	2	1	1	...	2	...	16	17	...	1	1	9	1

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1924.

Number of cases of Tuberculosis remaining on the Register of Notifications kept by the Medical Officer of Health of the County Borough on the 31st December, 1928.

TOTAL CASES.	PULMONARY.			NON-PULMONARY.		
	Males	Females	Total.	Males	Females	Total
716	265	205	470	129	117	246

This shows a decrease of 103 in the total number; which comprises a decrease of 66 pulmonary, and 37 non-pulmonary.

TABLE 53. (FORM T. 53 OF THE MINISTRY OF HEALTH).

TUBERCULOSIS DISPENSARY--WORK CARRIED OUT DURING THE YEAR 1928.

TABLE 54. (FORM T. 55 OF THE MINISTRY OF HEALTH).
RESULTS OF TREATMENT.

Observation for purpose of Diagnosis	PULMONARY TUBERCULOSIS.												Total		
	Classification. on admission to the Institution	Duration of Residential Treatment in the Institution.													
		Under 3 months.			3-6 months.			6-12 months			More than 12 months.				
	Condition at time of Discharge.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.		
Non-PULMONARY TUBERCULOSIS.	Quiescent .. .	1	1	...	2	2	...	...	...	...	...	...	1	7
	Improved .. .	2	2	1	2	1	3	1	...	2	...	...	1	15
	No material improvement .. .	...	1	...	1	...	...	1	1	...	...	...	...	4
	Died in Institution .. .	...	...	...	...	...	...	...	...	...	...	...	...	...
PULMONARY TUBERCULOSIS.	Quiescent .. .	...	...	...	1	...	...	...	...	...	...	1	...	2
	Improved .. .	2	3	...	2	1	...	2	2	...	...	1	...	13
	No material improvement .. .	3	...	...	...	...	...	...	...	...	...	...	...	3
	Died in Institution .. .	2	2	...	...	1	...	...	...	...	...	1	...	6
Class T.B. plus. Group 1.	Quiescent .. .	...	...	...	1	1	...	...	...	...	...	...	...	2
	Improved .. .	2	1	...	2	2	...	1	1	...	1	...	...	10
	No material improvement .. .	...	1	...	1	...	...	...	1	...	...	...	...	3
	Died in Institution .. .	1	3	...	...	...	...	...	1	...	...	...	...	4
Class T.B. plus. Group 2.	Quiescent .. .	...	...	...	...	...	...	...	...	...	...	...	...	...
	Improved .. .	2	1	...	2	2	...	1	1	...	1	...	...	2
	No material improvement .. .	...	1	...	1	...	...	...	1	...	...	...	...	3
	Died in Institution .. .	1	3	...	...	...	...	...	1	...	1	...	...	4
Class T.B. plus. Group 3.	Quiescent .. .	...	...	...	...	...	...	...	...	...	...	...	...	...
	Improved .. .	...	...	...	...	...	...	...	...	...	...	2	1	3
	No material improvement .. .	...	3	...	...	...	...	...	...	...	...	...	...	3
	Died in Institution .. .	4	1	...	1	...	...	...	1	...	1	...	...	8
Bones and Joints.	Quiescent or Arrested.	...	...	...	...	...	...	...	...	...	...	...	1	1
	Improved .. .	...	...	...	...	...	...	...	...	...	...	...	1	1
	No material improvement .. .	...	...	...	...	...	...	...	...	...	...	...	...	...
	Died in Institution .. .	...	...	...	...	...	...	...	...	...	...	...	...	...
Abdominal Organs.	Quiescent or Arrested.	...	...	...	...	...	...	...	...	...	...	...	...	...
	Improved .. .	...	...	...	...	...	...	1	...	...	...	...	1	2
	No material improvement .. .	...	...	...	...	...	...	...	...	...	...	...	...	...
	Died in Institution .. .	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Organs.	Quiescent or Arrested.	...	...	...	...	...	...	...	...	...	...	...	...	...
	Improved .. .	...	...	1	...	...	...	...	...	2	...	...	...	3
	No material improvement .. .	...	...	...	...	...	...	...	...	...	...	...	...	...
	Died in Institution .. .	...	...	...	...	...	...	...	...	...	...	...	...	...
Peripheral Glands.	Quiescent or Arrested.	...	...	...	...	...	...	...	...	...	...	...	...	...
	Improved .. .	...	...	...	...	...	...	...	...	...	...	...	...	...
	No material improvement .. .	...	...	...	...	...	...	...	...	...	...	...	...	...
	Died in Institution .. .	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculous	Under 1 week			1-2 weeks			2-4 weeks			More than 4 weeks					
	...	...	...	...	...	...	...	...	...	...	1	...	1	
				1*									13*		
	...	...	...	...	1	...	1	1	...	...	...	...	17	
Non-Tuberculous	Under 1 week			1-2 weeks			2-4 weeks			More than 4 weeks					
		
				1											
		
Doubtful	Under 1 week			1-2 weeks			2-4 weeks			More than 4 weeks					
		
				1											
		

* Patients in Residential Open Air School—Pre-Tuberculosis.

TABLE 55. (FORM T. 54 OF THE MINISTRY OF HEALTH).

RESIDENTIAL INSTITUTIONS.

(A) AVERAGE NUMBER OF BEDS AVAILABLE FOR PATIENTS DURING THE YEAR 1928.

	Observation.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Total
		" Sanatorium " Beds	" Hospital " Beds	Disease of Bones and Joints	Other Conditions.	
Adult Males .. . . .	..	5	18	6	..	29
Adult Females .. . . .	..	4	16	6	..	26
Children under 15	20	..	..	6	..	26
TOTAL	20	9	34	18	..	81

(B) RETURN SHOWING THE EXTENT OF RESIDENTIAL TREATMENT DURING THE YEAR 1928.

			In Institu-	Admitt'd during the year	Discharged during the year	Died in the Institutions	In Institu- tions on Dec. 31st.
			tions on Jan. 1st				
Number of Patients	Adults	M.	19	44	31	9	23
		F.	18	29	27	9	11
	Children:	M.	6	6	9	..	3
		F.	4	9	5	..	8
Number of Observation Cases.	Adults	M.	..	2	1	..	1
		F.	..	3	3	..	..
	Children	M.	*6	*12	*10	..	1
		F.	*4	*4	*4	..	*4

*Patients in Residential Open-Air School : Pre-Tubercular.

TABLE 56. (FORM T. 56 OF THE MINISTRY OF HEALTH).

PULMONARY TUBERCULOSIS.

ALIVE				Previous to 1928.					1928.									
				Class T.B. plus.					Class T.B. minus									
				Children		Adults		M.	Class T.B. minus		Group 1		Group 2		Group 3		Total (Class T.B. plus)	Class T.B. minus
	Condition at the time of the last record made during the year to which the Return relates.																	
	Discharged as Cured . . .			Children		Adults		M.										
								F.										
								M.										
								F.										
	Disease Arrested			Children		Adults		M.	37	6	..	..	..	6				
								F.	15	1	..	2	3					
								M.	16	..	1	..	1					
								F.	10	1	..	..	1					
	Disease not Arrested			Children		Adults		M.	22	14	20	19	53	15	1	6	1	8
								F.	26	10	11	8	29	20	1	3	1	5
								M.	10	..	1	..	1	3	..	..	..	..
								F.	5	1	..	2	3	4	..	..	..	..
	CONDITION NOT ASCERTAINED DURING THE YEAR . . .							83	8	9	6	23						
	LOST SIGHT OF OR OTHERWISE REMOVED FROM DISPENSARY REGISTER							447	82	47	19	148						
	DEAD			Children		Adults		M.	31	22	60	207	289	2	2	1	8	11
								F.	21	25	71	158	254	3	1	3	4	8
								M.	15	4	15	21	40	..	..	..	..	..
								F.	12	3	14	17	34	..	..	..	..	..
	TOTALS							750	177	249	459	885	47	5	13	14	32	

TABLE 56—Continued

NON-PULMONARY TUBERCULOSIS.

ALIVE		Previous to 1928.						1928.											
		Discharged as Cured . . .			Disease Arrested			Disease not Arrested			TRANSFERRED TO PULMONARY . . .			CONDITION NOT ASCERTAINED DURING THE YEAR . . .			LOST SIGHT OF OR OTHERWISE REMOVED FROM DISPENSARY REGISTER		
		Children	Adults.	Children	Adults.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
	Discharged as Cured . . .																		
	Disease Arrested																		
	Disease not Arrested																		
	TRANSFERRED TO PULMONARY . . .																		
	CONDITION NOT ASCERTAINED DURING THE YEAR . . .																		
	LOST SIGHT OF OR OTHERWISE REMOVED FROM DISPENSARY REGISTER																		
	DEAD																		
TOTALS		130	122	105	272	629		8	9	2	12	31							

Condition at the time of the last record made during the year to which the Return relates.

TABLE 57.

TABLE SHOWING THE IMMEDIATE RESULTS OF TREATMENT OF PATIENTS DISCHARGED FROM THE BLACKBURN
CORPORATION HOSPITAL DURING 1928.

Condition at time of Discharge.		PULMONARY TUBERCULOSIS.—Duration of Residential Treatment.												
		Under 3 months			3-6 months.			6-12 months			More than 12 months.			TOTAL
CLASS A.	Cases in which Tubercle Bacilli have never been found	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	2
Quiescent	1	2	...	2	1	3	1	1	...	...	...	10
Much improved	1	2	...	1	1	1	1	1	...	...	...	2
No material improvement.	—	—	...	—	—	—	—	—	—
Died in Institution	...	—	—	—	—	—	—	—	—	—	—	—	—	—
CLASS B 1	Early cases in which Tubercle Bacilli have been found	...	...	...	—	2	3	2	1	2	...	...	1	—
Quiescent	2	1	...	1	1	1	1	1	...	...	1	13
Much improved	3	—	...	—	—	—	—	—	...	...	3	3
No material improvement.	—	—	...	—	—	—	—	—	—	6
Died in Institution	...	2	2	—	—	1	—	—	—	—	1	—	—	6
CLASS B 2	Intermediate Cases in which Tubercle Bacilli have been found	...	...	...	—	—	1	—	—	—	...	...	—	8
Quiescent	2	1	...	1	1	1	1	1	...	...	—	2
Much improved	—	—	...	—	—	—	—	—	—	4
No material improvement.	—	—	...	—	—	—	—	—	—	—
Died in Institution	...	1	3	—	—	—	—	—	—	—	—	—	—	—
CLASS B 3	Advanced cases in which Tubercle Bacilli have been found	...	...	...	—	—	—	—	—	—	...	...	—	—
Quiescent	—	—	...	—	—	—	—	—	—	1
Much improved	—	—	...	—	—	—	—	—	—	—
No material improvement.	—	—	...	—	—	—	—	—	—	—
Died in Institution	...	3	—	—	—	1	—	—	—	1	—	—	—	6
FINAL DIAGNOSIS		Under 1 week			1-2 weeks.			2-4 weeks.			More than 4 wks.			—
Observation for purposes of diagnosis	—	—	—	—	—	—	1	—	—	—	—	1
Tuberculous	—	—	—	—	—	—	1	—	—	—	—	3
Non-Tuberculous...	—	—	—	—	—	—	—	—	—	—	—	—
Doubtful	—	—	—	—	—	—	—	—	—	—	—	—
Total	...	14	13	—	—	6	6	3	6	7	—	2	4	1
														62

TABLE 58.

ANNUAL RETURN SHOWING THE IMMEDIATE RESULTS OF TREATMENT OF PATIENTS DISCHARGED FROM
MEATHOP SANATORIUM DURING THE YEAR 1928.

Condition at time of discharge.		PULMONARY TUBERCULOSIS.—Duration of Residential Treatment.												
		Under 3 months			3-6 months.			6-12 months.			More than 12 months.			Total.
CLASS A		M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
Cases in which Tubercl	Bacilli have never been	...	...	...	...	...	...	...	...	...	...	...	...	5
Bacilli found	...	...	...	...	...	...	...	...	...	...	...	...	...	1
CLASS B 1		Quiescent	...	...	...	...	...	...	...	...	...	...	...	2
Early Cases in which	Tubercl Bacilli have	...	...	...	...	...	...	...	...	...	...	...	...	—
been found	...	...	...	...	...	...	...	...	...	...	...	...	...	—
CLASS B 2		Quiescent	...	...	...	...	...	...	...	...	...	...	...	1
Intermediate Cases in	Tubercl Bacilli	...	...	...	...	...	...	...	...	...	...	...	...	2
which Tubercl Bacilli	have been found	...	...	...	...	...	...	...	...	...	...	...	...	1
CLASS B 3		Quiescent	...	...	...	...	...	...	...	...	...	...	...	—
Advanced Cases in which	Tubercl Bacilli	...	...	...	...	...	...	...	...	...	...	...	...	2
been found	...	...	...	...	...	...	...	...	...	...	...	...	...	3
	Total	...	...	3	5	—	7	3	—	—	2	1	—	21

TABLE 59.
SHOWING THE EXTENT OF RESIDENTIAL TREATMENT FOR PULMONARY TUBERCULOSIS DURING 1928

		In Institutions on Jan. 1st.	Admitted during 1928.	Discharged during 1928.	Died in the Institutions.	In Institutions on Dec. 31st, 1928.
Meathop Sanatorium ...	Adults	M. 5 F. 4	12 9	11 8	1 1	5 4
	Children	M. — F. —	— —	— —	— —	— —
Corporation Hospital. ...	Adults	M. 12 F. 14	31 20	19 19	8 8	16 7
	Children	M. 1 F. 1	1 4	2 2	— —	— 3
Residential Open-Air School. ...	Children	M. 10 F. 6	17 8	16 6	— —	11 8
	Total	... ...	53	102	83	54

TABLE 60.

CONDITION AT END OF 1928 OF PATIENTS TREATED AT AND DISCHARGED FROM THE BLACKBURN CORPORATION HOSPITAL.

Year Discharged	At full work. No Symptoms	At full work, but with difficulty	Not able to work full time owing to ill health.	Not able to work but able to get about	Confined to the house	Confined to bed	Died (not in the Institution at time of first admission).	Cannot trace	Total.
	1	2	3	4	5	6	7	8	
1913	15	—	—	2	2	—	42	30	91
1914	12	—	—	—	1	—	36	19	68
1915	5	—	—	—	1	—	58	9	73
1916	3	1	—	—	—	—	46	6	56
1917	6	—	—	1	1	—	29	1	38
1918	10	—	1	1	1	—	38	6	57
1919	17	1	3	1	1	2	45	3	73
1920	16	—	1	4	2	—	46	4	73
1921	19	—	2	2	4	1	44	5	77
1922	22	8	5	7	3	2	49	7	103
1923	26	6	8	7	3	2	61	10	123
1924	13	4	2	9	5	4	56	8	101
1925	8	6	6	17	2	4	47	13	103
1926	2	8	4	7	2	—	26	6	55
1927	2	7	4	9	4	1	12	6	45
1928	—	4	4	8	8	2	15	1	42
Total..	176	45	40	75	40	18	650	134	1178
%	14.9	3.8	3.4	6.4	3.4	1.5	55.2	11.4	—

TABLE 61.

CONDITION AT END OF 1928 OF PATIENTS TREATED AT AND DISCHARGED FROM MEATHOP SANATORIUM.

Year Discharged.	At full work. No Sympt- oms.	At full work, but with difficulty	Not able to work full time owing to ill health	Not able to work but able to get about	Confined to the house.	Confined to bed.	Dead	Can-not trace	Total.
	1	2	3	4	5	6	7	8	
1909 and previous	1	—	—	—	—	—	12	7	20
1910	1	—	—	—	—	—	18	4	23
1911	—	—	—	1	1	—	14	1	17
1912	1	—	—	—	—	—	16	2	19
1913	9	—	1	—	1	—	13	12	36
1914	14	—	1	—	—	—	12	11	38
1915	7	—	—	—	—	—	12	13	32
1916	9	—	—	1	—	—	15	5	30
1917	10	—	—	1	1	—	19	5	36
1918	7	1	2	1	3	—	23	3	40
1919	15	3	1	3	—	—	18	8	48
1920	15	1	2	1	1	—	17	5	42
1921	15	3	3	1	1	1	10	8	42
1922	6	1	—	—	—	—	11	4	22
1923	3	1	3	4	1	—	8	4	24
1924	1	4	1	4	—	1	10	5	26
1925	1	2	—	4	2	—	14	2	25
1926	1	3	6	2	2	2	7	3	26
1927	1	1	3	5	2	1	3	3	19
1928	—	—	3	8	4	2	2	—	19
Total	117	20	26	36	19	7	254	105	584
%	19.9	3.4	4.5	6.3	3.3	1.2	43.5	17.9	—

TABLE 62.

SUMMARY OF DISPENSARY STATISTICS AND OF HOME VISITING.

	1928	1927
Number of persons placed under observation for purpose of diagnosis	53	46
Number of persons for whom the period of observation exceeded two months	6	6
Number of visits paid by the Tuberculosis Officer to the homes of patients	189	176
Number of visits paid by Nurses to the homes of patients for dispensary purposes	3067	3787
Number of attendees of patients at the Dispensary :—		
Insured	1356	1470
Not Insured	792	963
Total	2148	2433
Number of patients under Domieiliary Treatment :—		
Pulmonary	146	137
Non-Pulmonary	25	22
Total	171	159
Number of reports received from practitioners in respect of patients on Domiciliary Treatment	146	151
Number of specimens of sputum examined in connection with the work of the Dispensary :—		
Positive	75	61
Negative	114	129
Total	189	190
Number of houses disinfected during the year :—		
(i) On removal of patient to Hospital	67	62
(ii) On death	70	71
(iii) On changing address	3	8
Number of Reports made to Local War Pensions Committee by the Tuberculosis Officer on general progress and capacity for work of Tuberculous Discharged ex-Service men	141	214

PART VI.

Venereal Diseases.

VENEREAL DISEASES.

The Local Authority provide two Centres for the treatment of Venereal Disease. One is at the Royal Infirmary, where both men and women are treated, the other, which is at the Health Department, exists for the treatment of women and children attending the Maternity and Child Welfare Clinics.

Dr. Cran Duthie carries out the treatment of male patients, and Dr. Mackenzie that of females and children.

Examinations of pathological material are made at the Public Health Laboratory, Manchester, and at the Blackburn and East Lancashire Royal Infirmary.

(a) The Royal Infirmary Centre :

Six hundred and forty patients, of whom 376 were Blackburn residents, attended this Centre for the first time during the year. Of the Blackburn cases 124 were suffering from Gonorrhœa, 86 from Syphilis, and 166 from conditions non-veneretal.

This figure (124 gonorrhœa and 86 syphilis) cannot be taken as representing the true incidence of venereal disease in Blackburn, since there is no method of ascertaining the numbers of those who obtain treatment otherwise than under the scheme of the Local Authority or of those who neglect to secure treatment.

It is to be feared that many neglect to secure any form of treatment, and that others are lulled to a sense of false security by "treatment" received at the hands of unqualified persons.

The appended Table shows the number of new cases seen yearly at the Royal Infirmary since 1921.

<i>Year.</i>	<i>Male.</i>	<i>Female.</i>	<i>Total.</i>
1921	334	191	525
1922	258	155	413
1923	264	154	418
1924	243	148	391
1925	225	131	356
1926	260	144	404
1927	300	103	403
1928	349	291	640

The total number of attendances for all patients was 17,418, 11,912 of which were in respect of Blackburn residents. The aggregate number of in-patient days at the Royal Infirmary was 313 for Blackburn cases, and 353 for county cases.

During the year 154 males and 88 females ceased to attend the Clinic before completion of the full course, and 25 females and six males discontinued attendance after completion of treatment, but before final tests for cure had been carried out.

(b) *The Victoria Street Centre :*

This centre is for the treatment of women maritally infected, and of children congenitally or accidentally infected. The Clinic is a part of the Maternity and Child Welfare Scheme, and all cases referred for treatment have passed through the Welfare Centres.

Many of these maritally-infected women are unwilling to attend the Royal Infirmary Clinic, but are quick to avail themselves of the facilities offered at the Health Office Centre.

At the beginning of the year two males and 19 females were under treatment for syphilis ; 34 females for gonorrhœa ; and 17 females for non-venereal conditions. In the course of the year the following cases were dealt with : Syphilis, 33 ; Gonorrhœa, 39 ; 74, non-venereal conditions. The total number of attendees made was 1,636, compared with 1,920 attendees in 1927.

It is regrettable that many patients who attend for treatment regularly during the acute stages of venereal disease discontinue attendance following abatement of the acute symptoms. The treatment of venereal disease is a protracted one, and although energetic treatment may bring about early alleviation of discomfort, certain cure is effected only as the result of a long course of treatment.

It is the duty of every patient afflicted with this class of disease to continue treatment until such time as the doctor in charge of the case is satisfied that cure is established.

There is a great wastage of life and health as the result of venereal disease, its effects are far-reaching and its consequences visited on the children of infected parents. Ophthalmia Neonatorum, disfigurement, deafness and mental deficiency in the child are frequently the result of untreated venereal disease in the parent.

Syphilis and gonorrhœa are to be regarded as two of the greatest anti-social evils, and constitute a grave danger both to the infected person and his family, and a menace to the health and progress of the community.

BLACKBURN ROYAL INFIRMARY—V.D. Beds : Male 2 ; Female 2.

PARTICULARS OF STAFF.

	Duties.	If Employed Whole or Part-Time on Duties in V.D. Centre.
Medical Officers— Dr. W. Cran Duthie.	In charge of Male clinic.	Part-time.
Dr. E. Mackenzie	In charge of Female clinic	Part-time.
Resident Medical Officers	Assist at male clinics	Part-time.
Nurses—Two	To prepare for and assist at clinics Do irrigations, &c., and keep registers	One whole time. One at female clinic only.
Male Attendants—Two	To prepare for and assist at male clinics. Do irrigations, &c., and general porter's work in connection with clinics.	One nearly whole-time and evenings and week-ends ; and one at clinics only.
Dispenser—One	General Dispensing duties	Four clinics per week.
Clerk	Preparation of statistical returns and general clerical duties	Part-time.

TABLE 63.

RETURN relating to all persons who were treated at the Treatment Centre at the Blackburn and East Lancashire Royal Infirmary during the year ended the 31st December, 1928.

	Syphilis		Soft Chancre		Gonorrhœa		Conditions other than Venereal		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1. Number of cases which—										
(a) at the beginning of the year under report were under treatment or observation for	147	56	7	...	222	106	5	11	381	173
(b) had been marked off in a previous year as having ceased to attend or as transferred to other Centres, and which returned to the Treatment Centre during the year under report suffering from the same infection	6	4	...	...	10	2	1	1	17	7
Total—Items 1 (a) and 1 (b) ..	153	60	7	...	232	108	6	12	398	180
2 (a). Number of cases dealt with at the Treatment Centre during the year for the first time	66	76	...	...	123	96	160	119	349	291
Total—Items 1 (a), 1 (b) and 2 (a)	219	136	7	...	355	204	166	131	747	471
2 (b). Number of cases included in Item 2 (a) known to have received previous treatment at other Centres for the same infection..	2	1	...	...	4	2	...	...	6	3
3. Number of cases which ceased to attend—										
(a) before completing the first course of treatment for	40	34	2	...	104	50	...	...	146	84
(b) after one or more courses but before completion of treatment for	3	1	...	...	5	3	...	...	8	4
(c) after completion of treatment, but before final tests as to cure of ..	10	4	...	...	15	2	...	...	25	6
4. Number of cases transferred to other Treatment Centres after treatment for	1	2	...	...	3	2	...	...	4	4
5. Number of cases discharged after completion of treatment and observation for..	5	3	...	...	28	2	159	122	192	127
6. Number of cases which, at the end of the year under report, were under treatment or observation for ..	160	92	5	...	200	145	7	9	372	246
Total—Items 3, 4, 5, and 6 ..	219	136	7	...	355	204	166	131	747	471
7. Out-patient attendances—										
(a) For individual attention by the Medical Officer	1548	2065	...	...	2476	2611	419	546	4443	5222
(b) For intermediate treatment, e.g., irrigation, dressings, etc. ..	212	32	...	...	6566	943	...	...	6778	975
Total Attendances ..	1760	2097	...	...	9042	3554	419	546	11221	6197
8. Aggregate number of "In-patient days" of treatment given to persons who were suffering from ..	121	100	...	...	34	411	...	...	155	511

TABLE 63—(Continued).

	<i>For detection of Spirochetes.</i>	<i>Other Gonococci.</i>	<i>Organisms.</i>	<i>For Wassermann Reaction.</i>
9. Examination of Pathological material :—				
(a) Specimens which were examined at, and by the Pathologist of the Treatment Centre	5	1021	...	...
(b) Specimens from persons attending at the Treatment Centre which were sent for examination to an approved laboratory	...	...	...	685

Statement showing the services rendered at the Treatment Centre during the year, classified according to the areas in which the patients resided.

Name of County or County Borough (or Country in the case of persons residing elsewhere than in England and Wales) to be inserted in these headings.

A.	Number of cases from each area dealt with during the year <i>for the first time</i> and found to be suffering from :	<i>Blackburn</i>	<i>Lancashire</i>	<i>Preston</i>	<i>Blackpool</i>	<i>Total</i>
	Syphilis	86	55	1	...	...
	Soft chancre ... ...	...	...	...	...	...
	Genorrhœa	124	95	...	...	219
	Conditions other than venereal ...	166	119	2	1	279
	Total	376	260	3	1	640
B.	Total number of attendances of all patients residing in each area ...	11912	5498	7	1	17418
C.	Aggregate number of "In-patient days" of all patients residing in each area	313	353	...	...	666
D.	Number of doses of arsenobenzol compounds given in the —	1. Out-patient Clinic ...	2. In-patient Department ...	1165	1	19311
	to patients residing in each area					
E.	Give the names of arsenobenzol compounds used in the treatment of Syphilis and the usual initial and final doses	2	2	...	...	44
F.	State the amount and kind of treatment usually administered to a case of Syphilis of each of the types usually dealt with at the Treatment Centre...	Novarsenobillon in doses of 0·3 to 0·6 grammes and Sulfarsenal 0·45 to 0·6 grammes. Silver Salvarsan, 0·15 to 0·30 grammes; Stabilarsan, 0·45 to 0·6 grammes.				
G.	State the nature of tests applied in deciding as to discharge of patients referred to in Item 5 on previous page	Similar to that published by Col. Harrisen in the <i>British Journal of Venereal Diseases</i> , Jan., 1926. (This was given in full in the Report for 1925 of the M.O.H., Blackburn.)				
		These were given in full in the M.O.H. Report for Blackburn in 1925.				

(Signed)

ELLA MACKENZIE, M.A., M.D., D.P.H.,

W. CRAN DUTHIE, M.B., C.M.,

Medical Officers of the Treatment Centre.

TABLE 64.

RETURN relating to all persons who were treated at the Treatment Centre at the Health Department, Victoria Street, Blackburn, during the year ended the 31st December, 1928.

TABLE 64—(Continued).

	<i>For detection of Spirochetes.</i>	<i>Other Gonococci.</i>	<i>Organisms.</i>	<i>For Wassermann Reaction.</i>
9. Examinations of Pathological material :—				
(a) Specimens which were examined at, and by the Medical Officer of, the Treatment Centre
(b) Specimens from persons attending at the Treatment Centre which were sent for examination to an approved laboratory.	236	...	97

Statement showing the services rendered at the Treatment Centre during the year, classified according to the areas in which the patients resided.

Name of County or County Borough (or Country in the case of persons residing elsewhere than in England and Wales) to be inserted in these headings.

A. Number of cases from each area dealt with during the year for the first time and found to be suffering from :—

Syphilis	33
Soft Chancre .. . . . .	...
Gonorrhœa	39
Conditions other than Venereal	74

TOTAL	146
------------------	-----

<i>Blackburn.</i>	<i>Darwen.</i>	<i>Total.</i>
-------------------	----------------	---------------

33	...	33
...
39	...	39
74	...	74
146	...	146

B. Total number of attendances of all patients residing in each area

1636	...	1636
------	-----	------

C. Aggregate number of "Inpatient days" of all patients residing in each area .. .

...
-----	-----	-----

D. Number of doses of arsenobenzol compounds given in the :—

1. Out-patient Clinic	437
2. In-patient Dept. .. . . .	...

E. Give the names of arsenobenzol compounds used in the treatment of Syphilis and the usual initial and final doses

...
-----	-----	-----

F. State the amount and kind of treatment usually administered to a case of Syphilis of each of the types usually dealt with at the Treatment Centre ..

Neokharsivan—0·3 to 0·6 grammes ; Sulf-arsenal, $1\frac{1}{2}$ etgrms to 48 etgrms.

ADULTS.—*Primary Syphilis*—Two or more courses of 10 intravenous injections of Neok. + Pil. Hydrarg.

Secondary Syphilis—Three or more courses of 10 intravenous injections of Neok. + Pil. Hydrarg.

INFANTS.—One or more courses of 24 subcutaneous injections of sulfarsenal + Hyd. e Cret.

ADULTS.—*Primary Syphilis*—When Blood is negative at start Patient is discharged if Blood remains negative for two years without return of symptoms.

Secondary Syphilis—If Blood positive at start Patient discharged when Blood negative two years after treatment has ceased without return of symptoms.

INFANTS.—Discharged if no return of symptoms for two years after treatment has ceased.

Gonorrhœa—Discharged when all clinical signs have disappeared and three successive negative smears obtained from Cervix and Urethra after a menstrual period and *proroc. vac.*

PART VII.

Maternity and Child
Welfare.

ANTE-NATAL WORK.

Dr. Maekenzie, the Lady Assistant Medical Officer, conducts an Ante-Natal Clinic twice weekly, particulars of which will be found in the appended Table.

TABLE 65.

ANTE-NATAL CLINIC.

Number of Sessions held	99
Number of Attendances made	1749
Number of Individuals who attended and were examined .. .	599
Number of Normal Labours resulting	293
Number of Abnormal Labours resulting	52
Number of Women found to be not pregnant	167
Number of Women Undelivered at the end of 1928	87
Sent by Health Visitors and from Centres	102
Women sent by Matron of Springfield	105
Women sent by Doctors	64
Women sent by Midwives	77
Women who came on their own initiative	154
Women sent by another patient	87
Women sent by the District Nurses' Association	9
Woman sent by her Employer	1
Primigravidæ. Examined	193
Multigravidæ. Examined	239
Primigravidæ undelivered at end of year	36
Multigravidæ undelivered at end of year	51

The 52 Abnormal Labours were as follows :—

Instrumental	15	Placenta Praevia	1
Still Births	14	Premature Births	6
Cæsarian Section	10	Twins	6

The case of Placenta Praevia died from shock after version in Hospital.

It will be noted that 599 women attended and made a total of 1,749 attendances. The corresponding figures for 1927 were 480 and 1,316 respectively.

Although 1,518 women were confined by midwives during the year, only 77, or 5·07% of these cases attended the Ante-Natal Clinic. As stated in last year's report, the number of patients sent by midwives is disappointing, and has not been improved by the requirement of the Central Midwives Board, that all practising midwives must carry out ante-natal work, or send their patients to an Ante-Natal Clinic, if they do not feel able to fulfil this requirement.

Pregnancy, although a normal process, frequently becomes complicated by abnormal conditions arising in connection with it. By means of preventive measures adopted during the ante-natal period it is often possible to anticipate morbid conditions and thus conserve the health of the mother. If such conditions do arise, regular attendance at an ante-natal centre ensures their prompt detection and early elimination.

Influences prejudicial to the health of the expectant mother react upon the unborn child, and many still-births and neo-natal deaths are due to these influences. It is the responsibility of every expectant mother and of the mid-wife in attendance upon her to ensure that adequate ante-natal attention is received. Such attention is possible only at the hands of one possessed of extensive knowledge of medicine, pathology and anatomy.

Many of the states which jeopardise the health and even the life of the mother and unborn child are discernible only to the eye of one in possession of this knowledge.

Difficult labour is often due to pelvic abnormality, which has remained unnoticed until too late to obviate the attending dangers. The pelvimeter in the hands of a well-trained and expert worker, is an instrument of accuracy and precision, and is one to be used in the best interests of the mother. Inaccurate pelvimetry is not only valueless, but may be so misleading as to bring disaster to child and mother alike.

There is no doubt that a suspicion exists in the minds of some of the midwives that the Ante-Natal Centre will deprive them of their cases. This is not the case. The Centre exists to help the midwives and to relieve them of worry, anxiety and undue responsibility in connection with their cases.

The objects of the Ante-Natal Clinic may be summarised as follows :—

- (1) To tide the mother safely over the expectant period.
- (2) To ensure an uneventful confinement and lying-in period.
- (3) To ensure the birth of a healthy, living child.

If the maximum good is to arise from our Ante-Natal provisions, it is essential that the midwives of Blackburn co-operate more closely with the Ante-Natal Centre. At the present time this co-operation is lacking.

SUPERVISION OF MIDWIVES.

This work is undertaken by the Lady Assistant Medical Officer of Health, assisted by the Senior Health Visitor. Fifty-two midwives, none of whom are subsidised by the Local Authority, notified their intention to practice during the year. Of these, one resigned and six removed from the Borough, leaving 45 on the register at the end of the year.

There are 46 trained midwives holding the Certificate of the Central Midwives Board, and the remaining three are *bona fide* midwives. Thirty-six of the midwives are engaged in private practice, nine are attached to the District Nursing Association, and four are employed at Springfield Maternity Home.

Except in two cases the domestic and personal cleanliness of the midwives has been found satisfactory.

During the year an improvement in the keeping of ante-natal records has been noted, but in many cases these records are incomplete and unsatisfactory.

Although 35 of the midwives endeavour to carry out ante-natal supervision, I am of opinion that such work should be carried out under medical supervision. This point I have dealt with in the Section devoted to Ante-Natal Work.

DOCTORS' ACCOUNTS UNDER SECTION 14 (1) OF THE MIDWIVES ACT, 1918.

One hundred and twenty-nine accounts were received from doctors for services rendered to patients to whom they had been called in an emergency by a qualified midwife.

This compares with 117 in 1927, and 84 in 1926. The total amount of the accounts was £165/19/6. The Sub-Committee assessed the amounts recoverable from the patients at £104/16 3, and £75/4 0 was actually paid by patients during the year.

SPRINGFIELD MUNICIPAL MATERNITY HOME.

Two hundred and fifteen cases were admitted during the year, being five less than in 1927.

No structural alterations were carried out during the year.

1.	Number of Cases in the Home on 1st January, 1928..	..	..	..	6
2.	Number of Cases Admitted during 1928 :—				
	Ante-Natal Care ..	..	..	..	12
	Confinements ..	..	..	..	203 — 215
3.	Average Duration of Stay .. .. .. .. ..	..	..	..	14 days
4.	No. of Cases delivered by—				
	(a) Midwives .. .. .. .. ..	..	..	..	173
	(b) Doctors .. .. .. .. ..	..	..	..	30
5.	No. of Cases in which Medical Assistance was sought by the Midwife, with reasons for requiring assistance .. .. .. .. ..	..	..	..	74
	(a) Ante-Natal Nil.	..	..	..
	(b) During Labour :—				
	Uterine inertia .. .. ..	..	..	..	7
	Foetal distress .. .. ..	..	..	..	5
	Ante-partum haemorrhage .. ..	..	..	..	1
	Rigid Perinæum .. .. ..	..	..	..	1 — 14
	(c) After labour :—				
	Ruptured Perineum .. .. ..	..	..	..	37
	Post-partum haemorrhage .. .. ..	..	..	..	3
	Embolism .. .. ..	..	..	..	1
	Irregular Pulse .. .. ..	..	..	..	1
	Thrombosed Veins .. .. ..	..	..	..	4
	Retained Membranes .. .. ..	..	..	..	2
	Adherent Placenta .. .. ..	..	..	..	1 — 49
	(d) For Infant :—				
	Dangerous feebleness .. .. ..	..	..	..	1
	Melaena .. .. ..	..	..	..	1
	Slight Discharge of Eyes .. .. ..	..	..	..	8
	Pyloric Stenosis .. .. ..	..	..	..	1 — 11
6.	No. of Cases Notified as :—				
	(a) Puerperal Fever Nil.	..	..	..
	(b) Puerperal Pyrexia (<i>i.e.</i> , rise of temperature to 100·4° F. for 24 hours, or its recurrence within that period): with the result of treatment in each case .. .. ..	..	..	..	3

(i) Twin birth, 1st instrumental labour, 2nd internal version performed, retained membranes, rise of temperature 1st day, transferred to Isolation Hospital.

(ii) Purulent vaginal discharge, contracted pelvis, instrumental labour, adherent placenta, rise of temperature 3rd day, transferred to Isolation Hospital.

(iii) Twin birth, normal labour, temperature raised on 3rd day, due to emotional causes, transferred to Isolation Hospital.

7. No. of Cases of Pemphigus Neonatorum	..	..	..	..	..	..	Nil.
8. No. of Cases Notified as Ophthalmia Neonatorum, with result of Treatment in each case	..	..	..	..	..	..	Nil.
9. No. of Cases of "Inflammation of the Eyes," however slight	..	..					20
10. No. of Infants not entirely breast-fed while in the Institution, with reasons why they were not breast-fed :—							
1. Mother was Tubercular	..	..	..	..	..	..
2. Mother had to work	..	..	..	..	..	..
3. Mother Transferred to Isolation Hospital							
4. Mother transferred to Blackburn Royal Infirmary for Operation	..	..	..	..	..	..
5. Mother had Embolism and was too ill.							
6. Debility of Mother	..	..	..	..	..	..	6
11. No. of Maternal Deaths, with Causes	..	..	..	..	..	..	Nil.
12. No. of Foetal Deaths (a) Stillborn, and (b) within 10 days of birth, and their Causes—and the Results of the post-mortem examination, if obtainable :—							
(a)	..	..	..	..	..	..	5
(b)	..	..	..	..	..	..	Nil.

PUERPERAL FEVER AND PUPERPAL PYREXIA.

The Public Health (Notification of Puerperal Fever and Puerperal Pyrexia Regulations), 1926, were amended by the Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Amendment Regulations, 1928, in so far as the method of notification is concerned. The Amendment Regulations, which came into force on July 1st, 1928, require that notifications be sent to the Medical Officer of Health of the district in which the patient is actually living at the time of notification, and not, as required by the 1926 Regulations, to the Medical Officer of Health within which is situated the place of residence of the patient at the time of notification.

(a) *Puerperal Fever:*

Ten cases were notified during the year, seven in respect of Borough residents, and three, which were not investigated, in respect of women residing outside the Borough. Of the Borough cases two died, four recovered completely, and one was still under treatment at the end of the year.

No. of Cases Notified	10
Of which—	
Borough Cases	7
Out of Borough Cases	3
<i>(These were not investigated).</i>	
No. of Cases Attended by a Doctor alone at Confinement	1
,, ,, Doctor and Midwife at Confinement	1
,, ,, in an Institution at Confinement	5
No. of Cases Treated entirely at Home	1
,, ,, in Hospital (2 Died)	5
,, ,, at Home and in Hospital	1
No. of Cases in which a District Nurse attended	3
No. of Cases which Recovered entirely	4
No. of Cases which Died (1 Puerperal Sepsis and 1 Caesarian S. and Gangrene of Lung)	2
No. of Cases still under treatment at end of year	1

A second opinion on cases of puerperal sepsis is available if request be made to the Health Department by local practitioners, and such pathological examinations as they require are carried out at the Public Health Laboratories in Manchester and Liverpool. Beds are provided for the reception of this class of case in a special ward at the Corporation Hospital, to which five cases were admitted during the year.

The puerperal fever rate for Blackburn, in 1928, was 3·5 per 1,000 births, as compared with a rate of 5·3, in 1927.

(b) *Puerperal Pyrexia :*

Ten cases of puerperal pyrexia were notified during the year, one of which was in respect of an out of the Borough case. Excluding this latter case, the rate was 4·5 per 1,000 births, as compared with 11·2 per 1,000 births in 1927.

One of the cases notified terminated fatally, the cause of death being certified as pneumonia.

No. of Cases Notified ..	..	..	..	..	..	..	10
Of which—							
Borough Cases ..	..	..	..	..	..	..	9
Out of Borough Cases ..	..	..	..	..	..	..	1
No. of Cases Attended by a Doctor alone at Confinement ..	..	..	..	..	..	..	1
.. Attended by Midwife alone at Confinement ..	..	..	..	..	..	..	3
.. Attended by Doctor and Midwife at Confinement ..	..	..	..	..	..	..	3
.. Attended in an Institution at Confinement ..	..	..	..	..	..	..	3
.. Treated at Home entirely ..	..	..	..	..	..	..	4
.. Treated in Hospital entirely (1 Died)	..	..	..	..	..	..	5
.. Treated at Home and later in Hospital ..	..	..	..	..	..	..	1
.. in which a District Nurse Attended ..	..	..	..	..	..	..	4
.. which Recovered entirely ..	..	..	..	..	..	..	7
.. which Died (Pneumonia) ..	..	..	..	..	..	..	1
.. Still under Treatment at end of year ..	..	..	..	..	..	..	1

The result of the Out-of-Borough Case—Not Known.

MATERNAL MORTALITY.

During the year 12 deaths occurred in the puerperal state ; 11 of these deaths were in respect of Blackburn cases, and one, which was not investigated, was that of a woman resident outside the Borough, admitted to the Corporation Hospital as a case of puerperal septicæmia, who died at the Royal Infirmary, following transfer for surgical treatment. The maternal mortality rate for 1928 was 6·3 per 1,000 births, a figure which, although too high, is less than the corresponding rates for 1926 and 1927, when the rates were 8·03 and 7·6 respectively. The causes of maternal deaths are as under :

Puerperal Sepsis ..	..	..	..	..	..	..	1
Ruptured Ectopic Gestation ..	..	..	..	..	..	..	1
Eclampsia ..	..	..	..	..	..	..	1
Placenta Prævia, ante partum haemorrhage and shock ..	..	..	..	..	..	..	1
Cæsarian Section, gangrene of the lung ..	..	..	..	..	..	..	1
Cæsarian Section, acute dilatation of stomach ..	..	..	..	..	..	..	1
Phlogmasia Alba Dolens, pulmonary embolism and Pericarditis ..	..	..	..	..	..	..	1
Pregnancy and Influenza and Cardiac Failure ..	..	..	..	..	..	..	1
.. Pneumonia and Cardiac Failure ..	..	..	..	..	..	..	1
.. Nephritis and Valvular Disease of the Heart ..	..	..	..	..	..	..	1
.. Valvular Disease of the Heart ..	..	..	..	..	..	..	1
Parturition and Cardiac Failure ..	..	..	..	..	..	..	1

All cases of maternal deaths are investigated and reported upon by Dr. Mackenzie.

NOTIFICATION OF BIRTHS.

The Notification of Births Act, 1915, requires that all births be notified to the Medical Officer of Health within 36 hours of their occurrence. Following the receipt of notification, a very large proportion of the births are visited. All cases notified by midwives are visited as soon as possible after the birth. Cases attended by a doctor are visited, where the home circumstances warrant it, as soon as possible after the doctor ceases attendance.

It is required that births be both registered and notified, and although registration is invariably carried out, 113 parents neglected to notify during the year. In order that no births be missed, the notifications are checked by comparison with the returns of the Registrar of Births, and a letter sent to the parents of any child whose birth has not been notified.

The following Table illustrates the sources of notifications during the year :—

	<i>Live Births.</i>	<i>Still Births.</i>	<i>Total.</i>	<i>Percentage.</i>
Doctors	132	..	17	..
Midwives	1501	..	59	..
Parents and Others	182	..	12	..
			191	10·0
			1518	79·7
			194	10·2

STILL BIRTHS.

The number of still births investigated during the year was 79. An aetiological classification of the causes to which the still births were attributable will be found in Table 66.

NEO-NATAL DEATHS.

During the year 80 deaths occurred of infants in the first two months of life. Two of these deaths were due to complications of labour, three to parental syphilis, 18 to foetal states (excluding syphilis), 32 to prematurity, and 25 to post-natal causes.

The number of neo-natal deaths was 4·4% of live births notified.

All neo-natal deaths were investigated, and the appended Table gives a classification of the cause leading to death :—

TABLE 66.

							<i>Still Birth.</i>	<i>Death.</i>	<i>Neo-Natal</i>
1.—	<i>Complications of Labour :—</i>								
	Contracted Pelvis ..	..	..	..	..	..	4	..	0
	Breech Presentation ..	..	..	..	..	..	11	..	2
	Difficult Forceps Deliveries ..	..	..	..	..	..	4	..	0
	Excessive size of foetus (including post-maturity)					..	1	..	0
	Prolapse of Cord ..	..	..	..	..	..	5	..	0
	Coiling of cord round foetus ..	..	..	..	..	..	1	..	0
	Others ..	..	..	..	..	..	10	..	0
2.—	<i>Ante-Partum Haemorrhage</i> ..	..	..	..	..	..	7	..	0
3.—	<i>Toxaemia of Pregnancy :—</i>								
	Eclampsia ..	..	..	..	..	..	1	..	0
	Albuminuria of pregnancy ..	..	..	..	..	..	8	..	0
4.—	<i>Syphilis :—</i>								
	Certain ..	..	..	..	..	..	3	..	3
5.—	<i>Maternal Diseases :—</i>								
	Pneumonia, Bronchitis, Empyema ..	..	..	..	..	..	1	..	0
7.—	<i>Fœtal States (excluding Syphilis) :—</i>								
	Hydrocephalus ..	..	..	..	..	..	1	..	0
	Spina bifida ..	..	..	..	..	..	2	..	2
	Other Deformities ..	..	..	..	..	..	0	..	3
	Others ..	..	..	..	..	..	0	..	13
8.—	<i>Prematurity</i> ..	..	..	..	..	..	0	..	32
9.—	<i>Cause Unknown</i> ..	..	..	..	..	..	20	..	0
10.—	<i>Deaths due to Post-Natal Causes</i> ..	..	..	..	..	..	0	..	25
							—	—	—
							TOTAL ..	..	80

INFANTILE MORTALITY.

During the year there were 139 deaths of infants, compared with 131 in 1927. This figure corresponds to an infantile mortality rate of 80·3 per 1,000 births registered, compared with 76·9, in 1927.

Of the deaths certified, 133 were of legitimate, and six of illegitimate children. The rate of infantile mortality amongst legitimate infants was 81 per 1,000 legitimate births registered, and amongst illegitimate children, 68·1 per 1,000 illegitimate births registered.

Of the deaths certified 66, or 50%, occurred within the first month of life.

The more important causes of death were as follows :—

<i>Cause.</i>	<i>Number of Deaths.</i>	<i>Percentage of Total</i>	
		<i>Infantile Deaths.</i>	
Atrophy, Debility and Marasmus..	38	..	27·3
Premature Birth	28	..	20·1
Bronchitis.....	18	..	12·9
Pneumonia	17	..	12·2

The number of deaths from diarrhoea and enteritis is low, but four deaths having been certified as due to these causes compared with 12 in 1927.

The number of deaths from bronchitis (18), and pneumonia (17), is much higher than in 1927, when the figures were 11 and 20 respectively.

St. Peter's Ward shows the highest rate of infantile mortality (127), followed by Trinity (118), and St. Luke's (111). St. Stephen's exhibited the lowest rate (47).

Taking the Infantile Mortality over a period of ten years, St. Silas's shows by far the best figures, St. Andrew's comes next, closely followed by St. Michael's. The worst Wards during the same period were St. Mary's, St. Peter's and Trinity. In Table 67 it will be noted that the density of population is lowest in those wards with the lowest infantile mortality rate.

TABLE 67.

 INFANTILE MORTALITY IN WARDS AND COMPARISON WITH
 DENSITY OF POPULATION.

WARD	Estimated Population middle of 1927	Persons per Acre	Rooms per person	Births	Birth Rate	Infantile Mortality	Deaths	Death Rate	Natural Increase or Decrease of Popul'n 1927 S	Census Population 1926 (March)
St. Stephen's . . .	10832	9·2	1·08	169	15·5	6 47	133	12·2	+ 36	10 11212
Trinity . . .	8715	58·0	1·05	118	13·4	118	116	13·2	+ 2	8696
St. Michael's . . .	8827	14·1	1·10	122	13·7	65	101	11·3	+ 21	8787
St. John's . . .	7072	69·2	1·13	83	11·6	108	88	12·3	- 5	6957
St. Silas's . . .	8864	8·9	1·50	75	8·4	53	87	9·7	- 12	9210
St. Paul's . . .	9599	78·0	1·12	149	15·4	73	137	14·2	+ 12	9715
St. Peter's . . .	6598	51·1	1·05	110	16·6	127	116	17·4	- 6	6613
St. Mary's . . .	5428	31·8	1·02	104	19·0	77	80	14·6	+ 24	5474
St. Matthew's . . .	9163	83·2	1·05	114	12·3	105	91	9·8	+ 23	9200
St. Thomas's . . .	11865	6·8	1·08	154	12·9	77	130	10·8	+ 24	11941
Park	9325	14·3	1·08	135	14·4	81	123	13·1	+ 12	9467
St. Luke's . . .	7445	44·2	1·03	99	13·2	111	88	11·7	+ 11	7641
St. Mark's . . .	10247	25·5	1·13	116	11·2	51	121	11·7	- 5	10311
St. Andrew's . . .	10520	9·2	1·07	182	17·2	60	124	11·7	+ 58	11273
	124500	16·2	1·11	1730	13·8	80	1535	12·2	+ 195	126497

 COMPARISON OF BLACKBURN INFANTILE MORTALITY RATE WITH THAT OF
 ENGLAND AND WALES FROM 1919—1928.

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Blackburn	94	110	109	98	100	84	97	89	77	80
England and Wales . .	89	80	83	77	69	75	75	70	69	65

TABLE 68.

INFANTILE MORTALITY IN WARDS FROM 1919 TO 1928.

WARD.	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	Aver-age for 10 y'rs
St. Stephen's	116	136	92	67	56	68	65	130	45	47	82
Trinity	118	117	130	129	163	60	101	62	153	118	115
St. Michael's	53	106	83	78	105	99	80	78	46	65	79
St. John's	129	111	140	76	75	101	61	66	52	108	91
St. Silas's	51	53	59	69	50	44	29	67	41	53	51
St. Paul's	90	124	134	133	130	76	107	83	59	73	100
St. Peter's	68	197	114	170	91	149	105	104	119	127	124
St. Mary's...	131	138	98	138	128	99	188	158	97	77	125
St. Matthew's	75	100	127	111	90	120	65	106	41	105	94
St. Thomas's	88	90	106	71	130	76	84	53	76	77	85
Park	101	125	108	69	110	86	118	75	80	81	95
St. Luke's...	117	99	99	116	74	90	118	92	147	111	106
St. Mark's...	95	73	129	106	85	60	122	99	61	51	88
St. Andrew's	75	81	87	72	81	73	110	75	68	60	78
Borough	94	110	109	98	100	84	97	89	77	80	93

TABLE 69.—DEATHS UNDER ONE YEAR, ARRANGED ACCORDING TO DAYS, WEEKS AND MONTHS.

CAUSES OF DEATH.

Nett Births registered during the calendar year

Nett Deaths registered during the calendar year of

1336

TABLE 70.

DEATH RATES UNDER ONE YEAR OF AGE.

RATES PER 1,000 BIRTHS.

CAUSE OF DEATH.

	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Small-pox	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0
Chicken-pox	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0
Measles	1·9	2·4	4·5	0·0	3·5	1·1	2·7	0·9	0·5	4·2	0·5	3·5	0·0
Scarlet Fever	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0
Whooping-cough	1·4	3·0	3·8	0·5	0·0	3·5	1·8	2·3	2·0	2·1	3·4	0·0	1·1
Diphtheria and Croup	0·0	0·6	0·0	0·0	0·7	0·3	0·0	0·0	0·0	0·0	0·5	0·0	0·0
Erysipelas	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0
Tuberculous Meningitis ...	0·4	1·8	3·2	1·0	1·0	0·0	0·4	0·4	0·5	0·0	0·5	0·0	0·0
Abdominal Tuberculosis ...	1·4	1·8	2·5	0·5	0·4	1·1	0·4	0·0	0·5	0·5	0·5	0·0	0·5
Other Tuberculous Diseases...	0·0	0·0	0·6	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·5	0·0	0·0
Meningitis (<i>not Tuberculous</i>)...	2·4	2·4	1·9	0·0	4·2	0·7	2·3	0·9	1·0	2·1	2·2	0·5	1·7
Convulsions	8·2	12·3	5·1	4·9	4·4	8·3	4·5	4·3	5·0	5·2	2·2	2·9	2·8
Laryngitis	0·4	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0
Bronchitis	13·5	11·0	14·8	11·4	10·2	10·6	5·9	7·1	7·0	12·0	8·6	6·4	10·3
Pneumonia (<i>all forms</i>)	14·0	11·0	10·9	10·8	10·2	14·2	12·8	12·4	12·6	13·1	13·2	11·7	9·8
Diarrhoea	5·3	8·0	10·9	5·4	10·2	7·9	3·2	4·3	5·5	4·7	4·0	7·0	1·7
Enteritis	4·8	1·2	3·2	0·0	1·4	4·7	4·1	4·8	0·0	0·5	1·1	0·0	0·5
Gastritis	1·9	0·0	0·0	0·5	1·7	1·1	1·8	0·9	3·0	1·0	1·7	1·7	0·0
Syphilis	0·9	0·6	3·2	0·5	1·7	2·3	0·9	2·8	2·0	2·6	0·0	0·0	2·3
Rickets	0·0	0·6	0·0	1·0	0·0	1·5	0·9	0·4	0·0	0·0	0·0	0·0	0·0
Suffocation, overlying ...	0·0	0·6	0·0	0·5	0·7	0·0	0·4	0·4	0·0	0·0	0·0	0·5	0·5
Injury at Birth	0·0	0·6	0·0	0·5	1·4	0·3	1·3	0·4	0·0	0·0	0·0	0·0	0·5
Atelectasis	3·3	1·8	2·5	1·6	1·7	2·7	0·4	0·9	0·5	0·5	0·0	2·3	0·0
Congenital Malformations ...	5·8	4·3	6·4	2·7	4·2	3·9	4·5	10·5	3·5	5·7	5·7	3·5	0·5
Premature Birth	30·0	23·9	30·9	26·6	23·7	22·5	25·7	25·3	15·6	20·5	23·5	14·7	16·1
Atrophy, Debility and Marasmus	16·4	12·9	7·9	16·3	18·0	14·2	14·2	10·9	10·6	8·6	14·3	17·0	21·9
Other causes	8·2	9·2	10·3	9·2	9·9	7·1	9·6	9·5	14·1	13·6	6·3	4·7	8·6

THE PRE-SCHOOL CHILD.

CAUSES OF DEATH IN CHILDREN FROM ONE TO FIVE YEARS OF AGE.

					1928		1927
Pneumonia ..	..	..	..	..	11	.	37
Measles ..	..	..	..	..	—	.	29
Respiratory Diseases ..	..	..	..	..	6	.	9
Infectious Diseases (Non-Tubercular) ..	..	..	..	..	10	..	7
Tuberculosis (all forms) ..	..	..	..	..	3	..	2
Digestive System Diseases ..	..	..	..	..	3	..	1
All other causes ..	..	..	..	..	16	..	14
					—		—
					49		99
					—		—

During the year seven Nursery Classes were established in Blackburn, with accommodation for 300 children under the age of five years. The work carried out at these classes has been fully described in the School Medical Report.

Many of the children in attendance at these schools have been under supervision at the Child Welfare Centres. In order to secure continuity the Assistant Medical Officer for Maternity and Child Welfare, who is also Assistant School Medical Officer, undertakes the School Medical inspection and treatment of Nursery Class children.

OPHTHALMIA NEONATORUM.

Seventeen cases were notified during the year, one of which was in respect of an out of the Borough case born in Springfield.

Ophthalmia Neonatorum is in great measure a preventable disease, which generally results from the infection of the eyes at time of birth by gonorrhœal discharge present in the maternal passages. Energetic treatment of the mother during the ante-natal period will do much to bring about reduction or elimination of her infectivity, and careful toilet of the new-born baby's eyes will minimise still further the risk of infection.

Gonorrhœal ophthalmia is an all too frequent cause of blindness and visual impairment. Of the cases notified during the year one became totally blind, and two others were affected with serious and disabling impairment of vision.

A bed is now available at the Corporation Hospital for the reception of cases of ophthalmia where adequate attention is not possible in the home.

TABLE 71.

RESULTS OF TREATMENT.

Cases Treated.			Vision Unimpaired	Vision Impaired	Total Blindness	Deaths.
Notified	At Home.	In Hospital				
17	13	4	13	2	1	1

Four of the cases treated at home were attended by District Nurses.

MATERNITY AND CHILD WELFARE CENTRES.

There are six Maternity and Child Welfare Centres, situated at Princes Street, Nova Scotia, Kendal Street, The Griffin Parochial Hall, Harwood Street and Cornelian Street. At Harwood Street two sessions are held each week ; at each of the other centres there is one weekly session.

The Cornelian Street Centre was opened with the object of relieving the pressure at Kendal Street Clinic. This object has not been realised, as the attendances at the latter clinic in 1928 have been greater than in previous years. Cornelian Street has tapped a fresh source at the Brownhill Housing Estate.

The following Table shows that the attendees numbered 25,619, compared with 22,223 in 1927.

TABLE 72.

	Princes Street.	Copy Nook (2 sessions weekly).	School Street.	Kendal Street.	Griffin.	Cornelian Street	Total, 1928.	Total, 1927.	Total, 1926
Infants :—									
New cases under 1 year	130	265	152	169	135	77	928	861	871
No. of re-attendances..	1410	3361	1440	2124	1673	683	10691	9354	10503
New cases over 1 year..	26	57	46	37	26	35	227	238	256
No. of re-attendances..	2112	3858	2213	2682	1373	650	12888	10909	10531
Attendances of Infants	3678	7541	3851	5012	3207	1445	24724	21362	22161
Consultations with Dr.	675	1293	657	919	642	456	4642	4801	5916
Expectant Mothers—									
No. of new cases ..	23	45	19	33	15	6	141	136	155
No. of re-attendances	122	239	73	154	126	30	744	725	642
Total Attendances of Expectant Mothers..	145	284	92	187	141	36	885	861	797
Total Attendances.. ..	3823	7825	3943	5199	3348	1481	25619	22223	22958
Average Attendance per session 1928	84·0	76·9	80·2	100·0	66·9	31·5	*533		
1927	83·0	71·8	78·7	90·0	58·3	..	..	*463	
1926	71·0	73·43	73·3	88·2	64·28	..	..		*467

* Total average attendance *each week* at all the Centres.

A doctor attends at each session, together with two Health Visitors, and assistance is given by three or four voluntary workers. To these ladies I wish to express my thanks for the enthusiastic manner in which they have performed their self-imposed duties.

Of the 1815 births notified during the year, 928, or almost 50%, attended the Infant Consultation Centres.

Consultation with the Doctors did not maintain such a high figure as in 1927. The percentages seen by a Doctor at each session per clinic are as under :

Princes' Street ..	..	..	..	..	18·3
Copy Nook ..	..	..	..	..	17·2
Nova Scotia ..	..	..	..	..	17·0
Kendal Street ..	..	..	..	..	18·3
Griffin ..	..	..	..	..	20·0
Cornelian Street ..	..	..	..	..	31·5

The talks by Health Visitors at the Clinics have been continued. The syllabus is as under :—

I. Expectant Motherhood. II Care of the New-Born Infant. III The Diet of a Nursing Mother. IV Breast Feeding. V Artificial Feeding. VI Weaning. VII The Hygiene of Infancy. VIII Baby Clothes. IX The Development of the Child. X Feeding from 1-5 Years. XI Rickets. XII Common Ailments of Infancy.

The principal defects noted in infants attending the Centres were those due to early discontinuance of breast-feeding, and the results of improper feeding. In male infants a not infrequent defect noted was that due to maternal neglect of the prepuce, with consequent inflammation of the parts. Possibly the most common fault is overclothing of the chest and abdomen with tight binders and under-garments, whereas the lower limbs are left underclothed.

The appended Table shows the deaths of babies who attended the Clinics during their first year, as compared with the deaths of those who never attended the Clinics.

TABLE 73.

Area	Deaths	Attend'd a Clinic		Attendance at Birth			Full Time Baby		Births during same period.	Deaths in Institution			
		Yes	No	Doctor	Mid-wife	Doctor & Mid-wife	Yes	No		Queens Park	Royal Infirmary	Springfield	Reg. Mat.
District I.	24	3	21	4	12	8	16	8	309	1	..	..	1
,, II.	23	1	22	4	9	10	17	6	309	5	..	..	..
,, III.	25	7	18	6	10	9	16	9	285	1	2	..	..
,, IV.	13	3	10	4	4	5	10	3	131	3	..	..	..
,, V.	17	4	13	3	6	8	13	4	237	4	1	..	1
,, VI.	22	5	17	5	13	4	18	4	236	2	1	..	..
,, VII.	15	2	13	5	4	6	9	6	223	2	3	..	1
	139	25	114	31	58	50	99	40	1730	18	7	..	3

DENTAL TREATMENT OF MATERNITY AND CHILD WELFARE CASES.

Mr. H. Yates, the Senior Dental Surgeon, carried out the following work in connection with Maternity and Child Welfare Cases :—

		1928	1927
Number of Sessions held ..	.. .. ..	12	10
Number of Patients : Mothers ..	.. .. ..	57	—
Children ..	.. .. ..	163	63
Permanent Teeth Extracted ..	.. .. ..	116	—
Permanent Teeth Filled ..	.. .. ..	3	—
Temporary Teeth Extracted ..	.. .. ..	184	69
Temporary Teeth Filled ..	.. .. ..	3	1
Other Operations ..	.. .. ..	27	17

It is pleasing to note that the prejudice of expectant mothers to dental treatment is being overcome, 57 expectant mothers having attended the Dental Clinic during the year.

TABLE 74.
THE WORK OF THE HEALTH VISITORS.
HOME VISITING.

	District	District	District	District	District	District	District	Totals
	I.	II.	III.	IV.	V.	VI.	VII.	
Visits to Expectant Mothers—								
First Visits . . .	54	66	24	24	31	56	46	301
Re-visits . . .	50	70	20	34	60	48	33	315
Ineffective Visits . .	11	4	17	1	3	...	12	48
Infants under 1 year—								
First Visits . . .	301	307	251	147	159	299	234	1698
Re-visits . . .	740	683	767	524	729	677	764	4884
Ineffective Visits . .	75	79	161	125	214	37	143	834
Infants aged 1 year—								
Re-visits . . .	574	659	704	455	531	560	507	3990
Special Visits . . .	3	1	...	...	9	12	...	25
Ineffective Visits . .	94	57	85	23	124	28	137	548
Children 2—5 years . .	1087	1448	919	731	559	1212	974	6930
Ineffective . . .	276	101	132	6	28	18	218	779
Ophthalmia								
Neonatorum—								
First Visits . . .	1	1	2	2	1	1	2	10
Re-visits . . .	1	3	...	...	2	2	5	13
Diarrhoea—								
First Visits . . .	...	...	...	...	...	...	...	...
Re-visits . . .	1	...	...	...	...	...	...	1
Stillbirths . . .	14	16	12	5	9	4	9	69
Infectious Diseases . .	—	...	...	...	...	...	...	...
Doctors' Accounts . .	16	28	23	6	5	29	11	118
Milk (Mothers and Children Order)—								
Visits . . . .	...	3	13	2	3	6	3	30
Midwives—								
Routine	124	...	...	...	...	...	...	124
Special	16	...	...	...	...	...	...	16
Ineffective	83	...	...	...	...	...	...	83
Puerperal Fever Visits	6	7	7	...	2	5	2	29
Houses where deaths of infants occurred	10	15	6	3	4	5	2	45
Miscellaneous Visits . .	...	...	...	...	...	...	...	...
TOTALS . . 1928 . .	3537	3548	3143	2088	2473	2999	3102	20890
1927 . .	3572	3838	3526	2731	3026	3159	...	19852

TABLE 75.**CLINIC SESSIONS ATTENDED.**

	District I.	District II.	District III.	District IV.	District V.	District VI.	District VII.	Totals.
Maternity and Child Welfare Clinics ..	98	104	100	96	93	101	98	690
Ante-Natal Clinics ..	18	16	16	94	14	12	16	186
Special V.D. Clinics ..	...	15	...	47	17	16	...	95
Dr. Briggs' Orthopaedic Clinic ...	1	...	2	3	4	1	4	15
Dental & other Clinics	7	4	2	3	2	2	5	25
TOTALS ..	124	139	120	243	130	132	123	1011
Total Houses visited ..	2766	2567	2565	1640	2053	2389	2311	16291
Total Persons visited ..	3331	3555	3153	2089	2467	3003	3103	20701

The above figures show an increase over the corresponding figures for 1927, when the total number of Clinic Sessions was 888, houses visited 15,562, and persons visited 19,517.

MILK (MOTHERS AND CHILDREN) ORDER.

The following Table gives the number of families to whom assistance was rendered during 1928 under the Milk (Mothers and Children) Order.

TABLE 76.

Price.	No. on Jan. 1st, 1928.	New Cases during Year.	Cases Discontinued.	No. on Dec. 31st, 1928.
Free	217	267	382	102
Quarter Price . . .	16	65	65	16
Half-Price	6	31	35	2
TOTAL	239	363	482	120

For former years the corresponding figures (totals) are :—

1921	*58	606	576	†88
1922	*88	410	404	†94
1923	*94	433	363	†164
1924	*164	494	528	†130
1925	*130	242	255	†117
1926	*117	316	238	†195
1927	*195	337	323	†239

* Beginning of Year. † End of Year.

During the year 25,959 pounds of dried milk have been supplied to expectant and nursing mothers and young children at a cost to the Local Authority of £1,024/8/6. In 1927, 29,061 pounds were supplied at a cost of £1,215 12/9. The nett cost in 1928, therefore, fell by £191.

Oeeasionally erroneous statements as to family income have been made on the form of application for assisted milk supply. In the majority of these cases mis-statement of income has been due to the husband retaining, unknown to his wife, an unfair proportion of his earnings.

CARE OF ILLEGITIMATE CHILDREN.

No speeial provision is made by the Corporation for the eare of illegitimate children ; this work is undertaken at Viewfield Hostel by the Manchester Diocesan Assoeiation for Preventive and Reseue Work. The Health Department maintains a close eo-operation with the authorities of the Hostel, and takes an active interest in the important work earried out there.

I am indebted to Miss Duekworth for the appended particulars :—

	<i>Mothers.</i>	<i>Babies.</i>	<i>Boarders.</i>
Number of Beds	12	12	4
Number of Cases Admitted, 1928..	16	16	..
Number in Hostel, Jan. 1st, 1929..	11	11	4
Number returned to relatives and friends ..	3	3	..
Number of Mothers sent to situations ..	7	..	..
Babies kept as boarders.. .. .. ..	..	..	8 (for varying periods)
Babies taken back as boarders .. .. ..	..	..	..
Baby boarders discharged .. .. .. ..	..	6	..

At the end of the year there were eight babies under one year. Of these four were on four-hourly breast feeds.

PREMATURE BIRTHS.

During the year 69 premature births were brought to the notice of the Health Department, 38 of whom were living on December 31st, 1928.

The following Table gives an analysis of the eauses of prematurity :—

Causes of Prematurity—Not Known	44
Breech Presentation	1
Eclampsia	1
Ill Health of Mother	6
Uterine Displacement	1
Shock	2
Fall	1
Ante-Partum Haemorrhage	2
Twin Pregnancy	7
Albuminuria	3
Syphilis	1

MATERNITY AND NURSING HOMES.

At the beginning of the year there were seven registered Maternity Homes in Blackburn.

No applications were received for registration prior to the 1st July, 1928. The appended Table gives particulars of applications for registration in 1928 under the Nursing Homes Registration Act, 1927 :—

	<i>Nursing Homes.</i>	<i>Maternity Homes.</i>
Number of Applications	3	*2
Number of Houses Registered	3	1
Number of Orders made refusing or Cancelling Registration	0	0
Number of Appeals against such Orders..	0	0
Number of Applications for Exemption from Registration	0	0
Number of cases in which Exemption has been—		
(a) Granted	0	0
(b) Withdrawn	0	0
(c) Refused..	0	0

*One of these applications was in respect of premises where the accommodation was such that the midwife withdrew her application on the advice of the Medical Officer making the preliminary inspection.

On receipt of application for registration the premises are inspected by Dr. Mackenzie, who makes a survey of the accommodation available, suggests such structural and other alterations as may be necessary, and fixes the number of beds to be allotted for lying-in or other cases.

All the Nursing and Maternity Homes are inspected quarterly by Dr. Mackenzie ; in addition the Maternity Homes are visited at frequent intervals by Miss Lowe, the Senior Health Visitor. On the occasion of these visits conditions have been satisfactory.

At the end of the year there were three Nursing Homes with accommodation for 25 cases, and 8 Maternity Homes with accommodation for 19 cases, on the register.

PART VIII.

Miscellaneous.

ULTRA-VIOLET LIGHT TREATMENT.

Four clinics are held weekly at the Corporation Hospital, from 2-0 to 4-30, on Monday, Tuesday, Thursday and Friday afternoons. In addition special cases are seen by arrangement on week-day mornings. Two carbon-arc lamps and one mercury vapour lamp are employed.

Cases are referred for treatment from the Maternity and Child Welfare, School Medical and Tuberculosis Departments. Private practitioners also refer their cases to the Medical Officer in charge of the Clinic. The majority of the cases receive either local mercury vapour exposures or general carbon arc exposures, although cases of tubercular glands or lupus, who are also in poor physical condition have both general carbon arc exposures together with an additional local exposure from the mercury vapour lamp.

Improvement in both physical and mental condition has been noted following a course of treatment.

The following Tables give details of the cases treated, and the results of treatment :—

TABLE 77.

REFERRED FROM MATERNITY & CHILD WELFARE DEPARTMENT.

Condition	Cases		Cases Discharged						Still under Treatment	Average No. of Exposures in cases discharged as cured				No of Exposures so far given to all cases attending		Ceased attending before completion of treatment		
			Cured		Much Improved		No Change			Carbon Arc		Mercury Vapour		Carbon Arc		Mercury Vapour		
	M	F	M	F	M	F	M	F		M	F	M	F	M	F	M	F	
Rickets	10	4	3	—	1	2	—	—	3	1	58	—	—	—	553	—	3	1
Debility	2	3	—	—	—	—	—	—	2	2	—	—	—	—	158	—	—	1
Tub. Adenitis	1	—	1	—	—	—	—	—	—	—	59	—	—	—	59	—	—	—
Tub. Peritonitis ..	—	1	—	—	—	—	—	—	—	—	—	—	—	—	96	—	—	1
Malnutrition	3	—	—	—	—	—	—	—	2	—	—	—	—	—	32	—	1	—
Nervous Diseases..	1	1	—	—	1	—	—	—	—	—	—	—	—	—	34	3	—	1
Other Diseases ..	2	1	—	—	2	—	—	—	—	—	—	—	—	—	2	31	—	1
TOTAL	19	10	4	—	4	2	—	—	7	3	—	—	—	—	934	34	4	5

TABLE 77—(Continued).

REFERRED FROM TUBERCULOSIS DEPARTMENT.

Tub. Adenitis	1	1	—	1	—	—	—	—	—	1	—	—	—	44	—	121	—	—	
Tub. Peritonitis . . .	3	—	1	—	—	—	—	—	—	—	—	—	—	35	—	86	1	—	
T.B. Ankle	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	12	8	—	
Tub. Spinal Caries . .	2	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	208	—	—
Tub. of Knee	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	62	—	—
Lupus	2	1	—	—	—	—	—	—	—	2	1	—	—	—	—	—	370	—	—
Empyæma	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26	1	—
TOTAL	10	3	1	1	—	—	—	—	—	5	3	—	—	—	—	12	881	2	—

TABLE 78.
SENT BY PRIVATE PRACTITIONERS.

Condition	Cases	Cases Discharged								Average No. of Exposures in cases discharged as cured				No. of Exposures so far given to all cases attending				Cessation before completion of Treatment	
		Cured				Much Improved													
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Pulmonary T.B. . .	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	16	8	—	—
T.B. Adenitis	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	33	1	1
Marasmus	1	1	—	1	—	—	—	—	—	—	—	49	—	—	—	65	—	1	—
Debility	2	1	—	—	—	—	1	—	—	2	—	—	—	—	—	109	—	—	—
Encephalitis	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	113	—	—
Empyæma	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	30	—	—
Paralysis	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	130	—	—
Rheumatism	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23	—	1
Sycosis	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	166	—	—
T.B. Spine	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	54	—	—
Ulcer Legs	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	138	—	—
Lupus	2	6	—	—	—	—	—	—	1	1	3	—	—	—	—	29	612	1	2
Bronchitis	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	8	4	—	—
Anæmia	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	—
Mastoiditis	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	—	1
Malnutrition	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1
	12	15	—	1	—	1	—	1	8	6	—	—	—	—	—	229	1321	4	6

TABLE 79.

SUMMARY.

Complaint	No. of Cases	No. of Exposures	Type of Lamp used	Results of Treatment			Still under Treatment	Cured before Completion of Treatment
				Cured	Much Improved	No Improve- ment		
Rickets	24	1231	C.	4	4	-	12	4
T.B. Adenitis	18	774	Carb. & Merc.	2	-	-	13	3
T.B. Peritonitis	13	1202	C. & M.	2	1	-	7	3
Pre-Tubercular	20	2273	C. & M.	8	3	-	7	2
Lupus	15	1348	C. & M.	-	-	1	9	5
Pleural Effusion	5	433	C. & M.	4	1	-	-	-
Anæmia	3	304	C. & M.	-	1	-	1	2
Encephalitis	2	378	C. & M.	-	-	-	2	-
Rheumatism	2	39	M.	-	1	-	-	1
Bronchitis	3	191	C. & M.	-	-	-	2	1
Empyæma	2	56	M.	-	-	-	1	1
Malnutrition	4	33	C.	-	-	-	2	2
Phthisis	2	60	M.	-	-	-	2	-
T.B. Spine	3	262	M.	-	-	-	3	-
Debility	18	581	C.	2	2	-	13	1
Eczema	1	20	C. & M.	-	-	-	1	-
Mastoiditis	1	5	M.	-	-	-	-	1
Marasmus	2	65	C.	1	-	-	-	1
Paralysis-Spastic	2	161	C.	-	-	-	1	1
Osteomyelitis	1	6	C. & M.	-	1	-	-	-
Hæmophilia	1	70	C.	-	-	-	1	-
Psoriasis	1	138	M.	1	-	-	-	-
Sycosis	1	136	M.	-	-	-	1	-
Varicose Ulcers	1	138	M.	-	-	-	1	-
Abscesses	2	46	C. & M.	-	1	-	1	-
T.B. Elbow	1	104	M.	-	1	-	-	-
T.B. Knee	1	62	M.	-	-	-	1	-
T.B. Ankle	1	20	C. & M.	-	-	-	1	-
Mental	1	2	C.	-	-	-	-	1
TOTALS	151	10168		24	16	1	82	29

BACTERIOLOGICAL AND PATHOLOGICAL EXAMINATIONS.

Facilities are available for the examination of pathological and bacteriological specimens at the Corporation Hospital, at the Royal Infirmary, and at the Public Health Laboratories at Manchester and Liverpool.

The appended Tables give particulars of examinations carried out during 1928.

For particulars of work carried out at the Corporation Hospital Laboratory see Table 49.

TABLE 80.

<i>Nature of Test.</i>	<i>Royal Infirmary.</i>		<i>Liverpool University.</i>		<i>Manchester University.</i>		<i>Total.</i>
	<i>Pos.</i>	<i>Neg.</i>	<i>Pos.</i>	<i>Neg.</i>	<i>Pos.</i>	<i>Neg.</i>	
For Typhoid—Widal Test ..	—	—	3	8	1	13	25
For Gonococci—							
For Private Practitioners ..	—	2	—	—	7	19	28
For V.D. Clinic (B.R.I.) ..	201	886	—	—	—	—	1087
For Spirochetes...	—	4	—	—	1	—	5
Wassermann Test—							
For Private Practitioners ..	—	—	—	—	39	102	141
For V.D. Clinics	—	—	—	—	215	561	776
	201	892	3	8	263	695	2062

Two samples of shell-fish were submitted to the Public Health Laboratory, Manchester, for bacteriological examination.

NURSING IN THE HOME.

Domestic nursing of cases of Measles, Whooping Cough, Diarrhoea, Puerperal Fever, Ophthalmia Neonatorum, Influenza Pneumonia, and Tuberculosis is undertaken by the District Nursing Association.

The Corporation pay the Association an annual retaining fee of £35 for these services, with an additional payment of 8d. per visit.

The appended Table gives particulars of the work carried out by the District Nursing Association in this respect during 1928 :—

TABLE 81.

HOME NURSING BY DISTRICT NURSES.

Disease	On books Jan. 1st 1928	New Cases	Cured	Died	Hospital	Remain- ing end of 1928	Visits
Tuberculosis . . .	5	23	4	16	4	4	1225
Pneumonia . . .	6	132	101	20	9	8	2497
Puerperal Fever and Pyrexia . .	..	11	8	..	3	..	273
Ophthalmia Neonatorum . .	..	5	4	..	1	..	118
TOTAL . . .	11	171	117	36	17	12	4113

PUBLIC HEALTH PROPAGANDA.

Although no Health Week has been held during the year, publicity in health has been carried on by means of lectures and addresses given by members of the Health Department. In all 23 lectures were given to audiences totalling approximately 4,200 :—

LIST OF LECTURES GIVEN DURING THE YEAR 1928.

<i>Lecturer.</i>	<i>Where held and Title of Lecture.</i>	<i>Date</i>	<i>Approx. Attend.</i>
Dr. G. C. F. Roe	.. Blackburn (Amalgamated) Co-operative Society, on "Personal Hygiene in Relation to Infectious Diseases"	Feb. 1928 ..	200
Dr. V. T. Thierens	.. King's Hall, on "Dangers of Ignorance"	July 2,3, 4	900
Dr. G. C. F. Roe	.. Victoria Hall, on "Dangers of Ignorance"	"	900
Dr. C. B. Hogg	.. Star Picturedrome, on "Dangers of Ignorance"	"	900
Dr. G. C. F. Roe	.. College of Nursing on "Normal Psychology"	Sept.	100
Dr. G. C. F. Roe	.. St. John Ambulance Brigade, on "Prevention of Tuberculosis" ..	Sept.	100
Dr. V. T. Thierens	.. Parents and Children, Emmanuel School	Sept. 13 ..	100 children, 20 parents.
Dr. Thierens and Dr. Roe	.. Sanitary Inspectors, School Nurses and Health Visitors on "Small-pox and Vaccination" ..	Oct. 12 ..	30
Dr. V. T. Thierens	.. Juvenile Employment Committee on "The Care of the Adolescent" ..	Oct. 31 ..	25
Dr. G. C. F. Roe	.. Blackburn (Amalgamated) Co-operative Society on "Cancer" ..	Nov. 6 ..	150
Dr. V. T. Thierens	.. District Nursing Association ..	Nov. 14 ..	100
Dr. V. T. Thierens	.. St. Michael's Infants ..	Dec. 12 ..	200
Dr. G. C. F. Roe	.. St. Bartholomew's Infants ..	Dec. 18 ..	150
Dr. V. T. Thierens	.. Accrington Road School ..	Dec. 19 ..	50 sen. children 55 parents.
Dr. V. T. Thierens	.. St. Peter's C.E. Junior Dept. ..	Dec. 19 ..	200 parents.
Dr. G. C. F. Roe	.. St. Stephen's Infants ..	Dec. 19 ..	100
Dr. V. T. Thierens	.. St. James', Black-a-Moor ..	Dec. 20 ..	150

The Health Visitors have continued the Talks to Mothers at the Centres. Six Lectures every fortnight have been delivered throughout the year, except during the summer quarter.

The Talks by Health Visitors to school children attending the Domestic Science Centre were also continued throughout the year.

PREVENTION OF BLINDNESS.

PUBLIC HEALTH ACT, 1925, SECTION 66.

With the object of preventing blindness, the Local Authority provides beds at the Corporation Hospital for the reception of such cases of ophthalmia neonatorum as cannot be properly cared for in their own homes.

The Blackburn Corporation have an agreement with the Blackburn and District Nursing Association to undertake the domiciliary nursing of cases of ophthalmia neonatorum. Five cases, to which 118 visits were paid, were so nursed during the year.

CARE OF THE BLIND.

THE BLIND PERSONS ACT, 1920, SECTION 2, SUB-SECTION 1.

The Blind Persons Act Committee consists of 19 members of the Town Council and of seven non-Council members experienced in the care and welfare of the blind.

In order to secure closer co-operation between the Workshops for the Blind and the Blackburn and Darwen Visiting Society for the Blind a special Committee, known as the Joint Finance Committee for the Blind was formed in April, 1928. The Committee is composed of representatives of the Corporation, the Lancashire County Council, the Borough of Darwen, the Workshops for the Blind and the Blackburn and Darwen Visiting Society. This Committee organises voluntary efforts in the interests of the blind, and through the work of Mrs. Coggins and Mr. E. Greenhalgh, the joint organisers to the Committee, £1,762 have been collected during the year. The honorary organisers supervise the work of a paid collector in the service of the Committee and arrange flower days, etc. The funds collected are distributed, after deductions of administrative and working expenses, between the Workshops, who receive 80 per cent., and the Visiting Society, 20 per cent. of the available surplus.

At the end of the year there were 243 Blackburn residents on the Blind Register.

In 1928 the Blind Persons Scheme cost the Corporation £1,263.

METEOROLOGY, 1928.

TABLE 82.

Corporation Hospital Station, Height 560 feet.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Amount of Bright Sunshine..	hrs. min 26 30	hrs. min 48 48	hrs. min 68 30	hrs. min 122 40	hrs. min 136 50	hrs. min 145 2	hrs. min 177 25	hrs. min 183 5	hrs. min 115 25	hrs. min 82 30	hrs. min 33 45	hrs. min 15 25	hrs. min 1125 52
Average per day	0 51	1 41	2 12	4 5	4 25	4 46	5 43	4 56	3 51	2 39	1 7	0 29	..
Maximum amount in one day.	hrs. min 5 15	hrs. min 7 50	hrs. min 10 35	hrs. min 12 30	hrs. min 12 10	hrs. min 13 50	hrs. min 11 20	hrs. min 9 40	hrs. min 8 15	hrs. min 6 30	hrs. min 4 0	..	..
Total Rainfall (in inches)....	8.81	4.22	2.82	1.21	1.42	5 645	2.215	7.345	1.19	5 13	5.85	2.865	48.72
No. of days on which rain fell.	27	17	23	14	13	23	15	20	16	26	25	28	247
Av. Temp. at 9 a.m. (Fahr.)..	39.21	40.06	39.11	43.53	48.97	52.8	56.4	56.43	51.6	46.98	42.4	36.85	—
Temp. of earth at depth of 1ft.	37.97	39.98	40.74	43.48	48.66	53.0	57.2	57.1	54.7	48.5	43.7	38.7	—
Temp. of earth at depth of 4ft.	40.82	41.07	41.24	42.75	45.92	49.6	52.9	54.9	54.8	51.1	47.0	44.03	—
Highest Temp. in Shade	52.5	53.0	59.0	72.0	72.0	69.0	73.5	73.0	73.0	63.0	55.0	52.5	—
Lowest Temp. in Shade	26.0	28.0	24.0	28.0	32.0	38.0	45.0	45.0	34.5	32.0	29.5	23.0	—
Av. Temp. Sun (black bulb)..	59.3	75.5	86.9	102.8	108.4	108.9	113.0	110.0	102.7	88.0	70.9	47.3	—
Lowest Temp. on Grass	24.0	27.0	22.0	21.0	21.0	Glass Broken	36.0	38.0	29.5	28.0	25.5	21.0	—
Highest cor. reading of barom.	30.218	30.397	30.135	30.043	30.193	30.293	30.378	30.194	30.361	30.170	30.238	30.377	—
Lowest cor. reading of barom.	29.327	28.930	28.624	29.274	29.530	29.144	29.503	29.416	29.498	28.702	28.996	29.144	—
Mean reading of barometer.. (uncorrected)	29.171	29.378	29.178	29.242	29.397	29.316	29.466	29.320	29.535	29.139	29.134	29.400	—

LOCAL POWERS RELATING TO PUBLIC HEALTH.

1.—BLACKBURN CORPORATION ACTS AND ORDERS:—

- The Blackburn Improvement Act, 1882.
- The Blackburn Water Act, 1885.
- The Blackburn Corporation Act, 1892.
- Local Government Board's Provisional Orders Confirmation (No. 14) Act, 1894.
- Local Government Board's Provisional Orders Confirmation (No. 18) Act, 1897.
- The Blackburn Corporation Act, 1901.
- The Blackburn Corporation Act, 1908.
- Local Government Board's Provisional Orders Confirmation (No. 9) Act, 1910.
- The Blackburn Corporation Water Act, 1911.
- Local Government Board's Provisional Orders Confirmation (No. 1) Act, 1919.
- The Blackburn Corporation Act, 1922.

2.—ACTS OF PARLIAMENT ADOPTED BY THE COUNCIL:—

- Parts II. & III. of the Public Health Acts (Amendment) Act, 1890, adopted by the Town Council, 2nd April, 1891.
- INFECTIOUS DISEASES (PREVENTION) ACT, 1890, adopted by the Town Council (except Sections 14 and 19), 5th March, 1891.
- Part III. of the Housing of the Working Classes Act, 1890, adopted by the Town Council, 5th August, 1897.
- Public Health Acts Amendment Act, 1907 : Certain sections adopted by Orders of the Local Government Board on the 5th December, 1908 ; 5th January, 1910 ; and by Order of the Secretary of State, dated 27th October, 1909.

3.—BYE-LAWS AND REGULATIONS IN FORCE IN THE BOROUGH:—

- General Bye-Laws, dated 12th January, 1855.
- Bye-Laws for Regulation of Private Slaughterhouses, 25th October, 1877.
- Regulations for Preventing Waste, Misuse, or Contamination of Water, 17th December, 1887.
- Bye-Laws *re* Common Lodging Houses, 6th September, 1888.
- Bye-Laws made under the Contagious Diseases (Animals) Act, 1878 to 1890, and the Dairies, Cowsheds, and Milkshops Orders of 1885 and 1886, 5th July, 1893.
- Bye-Laws *re* Houses Let in Lodgings, 4th April, 1895.
- Bye-Laws for Regulation of Offensive Trades, 4th March, 1897.
- Byo-Laws with Respect to Management and Charges for Slaughterhouses Established by the Council, 20th March, 1901.
- Bye-Laws for the Prevention of Carrying Carcasses through the Streets, 25th April, 1901.
- Byc-Laws *re* Cattle Markets, 1st June, 1905.
- Regulations made under the Diseases of Animals Acts, 1894 to 1903 and Lancashire (Parasite Mange) Order, of 1908, 9th February, 1910.
- Regulations made under the Diseases of Animals Acts and Glanders or Farcy Ordor of 1920, 17th February, 1921.
- County Borough of Blackburn Offensive Trades Confirmation Order, 1922, declaring Rag and Bone Dealing to be an Offensive Trade.
- Bye-Laws *re* Tents, Vans, Sheds and Similar Structures, 15th May, 1924.
- Bye-Laws *re* Houses Let in Lodgings, 20th Junno, 1924.

MINISTRY OF HEALTH ORDERS, ETC., 1928.

STATUTES :—

- Food and Drugs Adulteration Act, 1928.
 Rag Flock Act (1911) Amendment Act, 1928.

ORDERS :—

No. 634 .. 14/8/28 ..	Dangerous Drugs Act, 1925.
.. 644 .. 14/8/28 ..	Dangerous Drugs Act, 1920.
.. 970 .. 22/12/28 ..	The Rent (Restrictions) Rules 1928.
.. 876 .. 9/11/28 ..	Factory and Workshops—Notice of Accidents.
.. 925 .. 14/11/28 ..	The Dangerous Drugs (Benzoyl-Morphine) Regulations, 1928.
.. 982 .. 14/12/28 ..	Dangerous Drugs.

REGULATIONS :—

No. 82 .. 8/2/28 ..	Factory and Workshops—Dangerous and Unhealthy Industries.
.. 84 .. 11/2/28 ..	Factory and Workshops—Dangerous and Unhealthy Industries.
.. 420 .. 25/5/28 ..	The Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Amendment Regulations, 1928.
.. 419 .. 25/5/28 ..	The Public Health (Ophthalmia Neonatorum) Amendment Regulations, 1928.

CIRCULARS :—

No. 839 .. 4/1/28 ..	Housing (Rural Workers) Act, 1928.
.. 849 .. 6/1/28 ..	Housing (Rural Workers) Act, 1928.
.. 857 .. 31/1/28 ..	Compensation to Midwives.
.. 859 .. 23/1/28 ..	Small-pox among Casuals.
.. 860 .. 13/1/28 ..	Public Vaccination Administration.
.. 862 .. 22/3/28 ..	Nursing Homes Registration Act, 1927.
.. 880 .. 30/3/28 ..	Small-pox among Casuals.
.. 888 .. 23/4/28 ..	Maternal Mortality.
.. 883 .. 26/4/28 ..	Welfare of the Blind.
.. 890 .. 16/5/28 ..	Registers of Cases in Small-pox Hospitals.
.. 893 .. 31/5/28 ..	Notification of Puerperal Pyrexia and Ophthalmia Neonatorum.
.. 908 .. 28/6/28 ..	Smallpox among Casuals.
.. 900 .. 30/5/28 ..	Treatment of Ex-Service Men suffering from Tuberculosis.
.. 911 .. 31/7/28 ..	Infant Welfare Centres and Ante-Natal Clinics.
.. 21/9/28 ..	Pollution of Rivers.
.. 930 .. 28/9/28 ..	Smallpox among Casuals.
.. 879 .. 28/3/28 ..	Health Visitors.
.. 912 .. 30/7/28 ..	Wireless Telegraphy (Blind Persons Facilities) Act, 1926.
.. 948 .. 28/11/28 ..	Export of Meat Food Products to Canada.

MEMORANDA :—

Memo. 135 . . —/6/28 . . Official Certification of Meat and Meat Products intended
for Export to United States of America.
Proposals for Reform in Local Government.

MINISTRY OF AGRICULTURE AND FISHERIES.

No.	90	..	10/2/28	..	Sheep Scab Order, 1928.
..	48	..	7/2/28	..	The Foot and Mouth Disease (Boiling of Animal Food-stuffs) Order of 1928.
..	81	..	25/1/28	..	The Sheep Scab Order, 1928.
..	133	..	24/2/28	..	The Foot and Mouth Disease Order, 1928.
..	205	..	23/3/28	..	The Pleuro-Pneumonia Order, 1928.
..	206	..	23/3/28	..	The Cattle Plague Order, 1928.
..	236	..	30/3/28	..	The Quarantine Stations (Regulations) Order, 1928.
..	402	..	11/5/28	..	The Importation of Raw Cherries Order, 1928.
..	439	..	30/5/28	..	The Fertilizers and Feeding Stuffs.
..	459	..	6/6/28	..	The Sheep Scab (Amendment) Order, 1928.
..	421	..	23/5/28	..	The Fertilizers and Feeding Stuffs Regulations, 1928.
..	99	..	2/3/28	..	The Foot and Mouth Disease Order, 1928.
..	121	..	5/9/28	..	The Anthrax Order, 1928.
..	656	..	28/8/28	..	The Anthrax Order, 1928.
..	681	..	28/9/28	..	The Quarantine Stations (Regulations) Orders, 1928.
..	911	..	19/11/28	..	The Foreign Hay and Straw (Amendment) Order, 1928.

